IBM 1410 DATA PROCESSING SYSTEM
SMS CARD CIRCUITS

General Information:

The repair of 700 and 7000 Series units, using SMS cards, will be accomplished by card replacement. This will provide maximum customer availability through minimum downtime. Removed cards should be accumulated and forwarded to the Endicott Plant, Parts Recovery Department, unless otherwise instructed by later communication.

All cards are identified by part number and by code. This manual is in part number sequence. For convenience and cross-reference, a part number listing and an alphabetical code listing are included.

Cards of different engineering levels, but having the same part number, are interchangeable. Should an engineering change to an existing card cause the new card not to be interchangeable with the old level card, a new part number and code will be assigned.

Prints should not be deleted from this manual. New prints (for the new part numbers only) will be mailed to the Branch Office periodically. Present plans do not include updating this manual with new prints for each new engineering level.

1410 SMS CARDS BY PART NUMBER

P/N	TYPE	P/N	TYPE	P/N	TYPE
370059	CEC	370229	DFM	370350	DHF
370066	TAB	370230	DFL	370351	DHG
370083	DAW	370231	DFK	370352	DHJ
370084	DAX	370232	DFJ	370358	DHH
370093	YAA	370233	DFH	370365	TAF
370095	YAB	370234	DFS	370369	TAM
370106	TAS	370236	DFT	370371	DHD
370126	ABN	370237	DFW	370372	DHC
370127	DAZ	Memdriver 370238	DFV	370373	DGZ
370129	TAU	370239	DFY	370374	DHA
370141	3J MX	370241	DFZ	370375	DGY
370142	4J MX	370242	DGA	370376	DGX
370143	CEK	370244	DGC	370377	DGW
370144	2J MX	370245	DGD	370378	DGV
370200	DEU	370246	DGE	370379	DGU
370201	DFE	370248	DGG	370380	DGT
370202	DES	370249	DGH	370385	DBZ
370203	DET	370250	DGJ	370389	TDB
370204	DFD 2 Bin Tces	370251	DGK	370396	TDH
370205	DFC	370252	AER	370397	TDG
370206	DFB	370253	DGL	370398	TDF
370207	DEZ	370254	AEW	370399	TDE
370208	DEY	370255	AET	370400	TDD
370209	DF7	370256	DGM	370401	TDC
370210	DEX	370257	DGN	370414	AJF
370211	DEW	370258	DGR	370415	DHN
370212	DEQ	370259	TCV	370416	YAX
370213	DER	370260	AJD	370417	YBY
370214	DEV	370261	DBX	370419	YCA
370215	A[illegible]K	370262 SS	DHE	370420	YCB
370216	DEF	370264	DHM	370421	YCC
370217	DEG	370265	DHL	370431	AGE
370218	DEH	370291 SS	TBN	370433	AGD
370219	DEJ	370293	AHC	370438	AGN
370220	DEK	370295	TBQ	370449	YCE
370221	DEL	370296	TBG	370454	AGK
370222	DEM	370297	TBR	370455	AMC
370223	DFF	370298	TBS	370456	AGY
370224	DFA	370299	TBV	370457	AGJ
370225	DFQ	370334	TCK	370458	AGL
370226	DFR	370347	DGS	370465	AME
370227	DFN	370348	DHB	370466	AMD
370228	DFP	370349	DHK	370467	AGZ

2/1/95

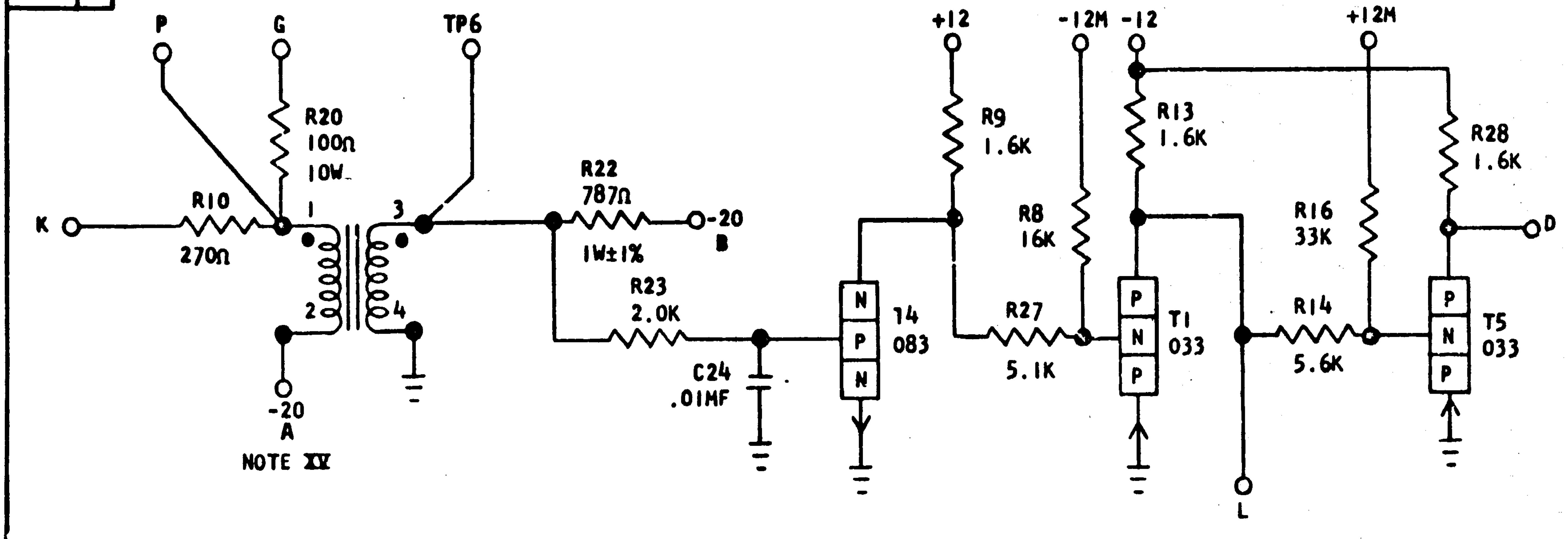
370059

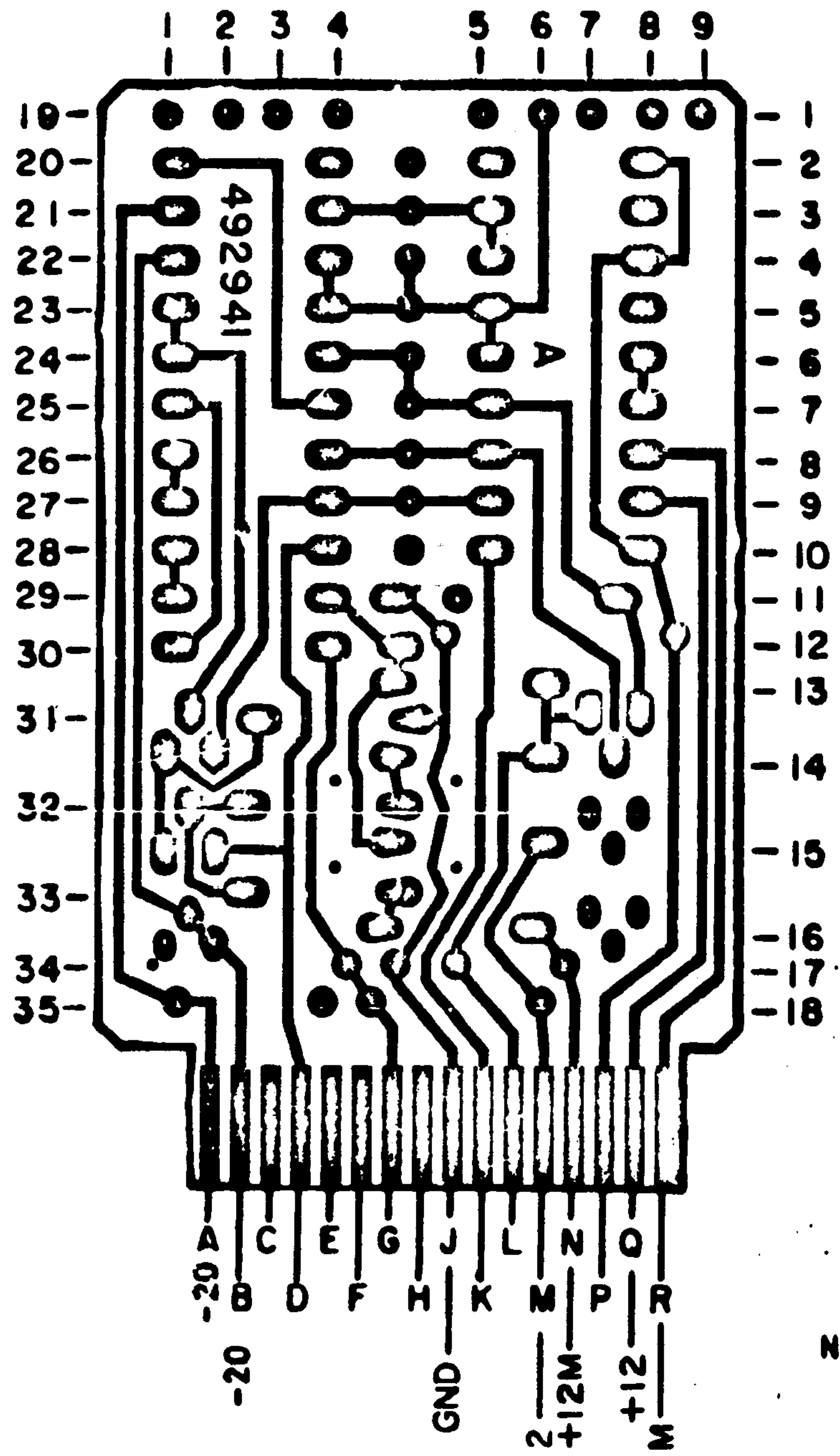
C E C -

STANDARDS CODE
2-7045

370059

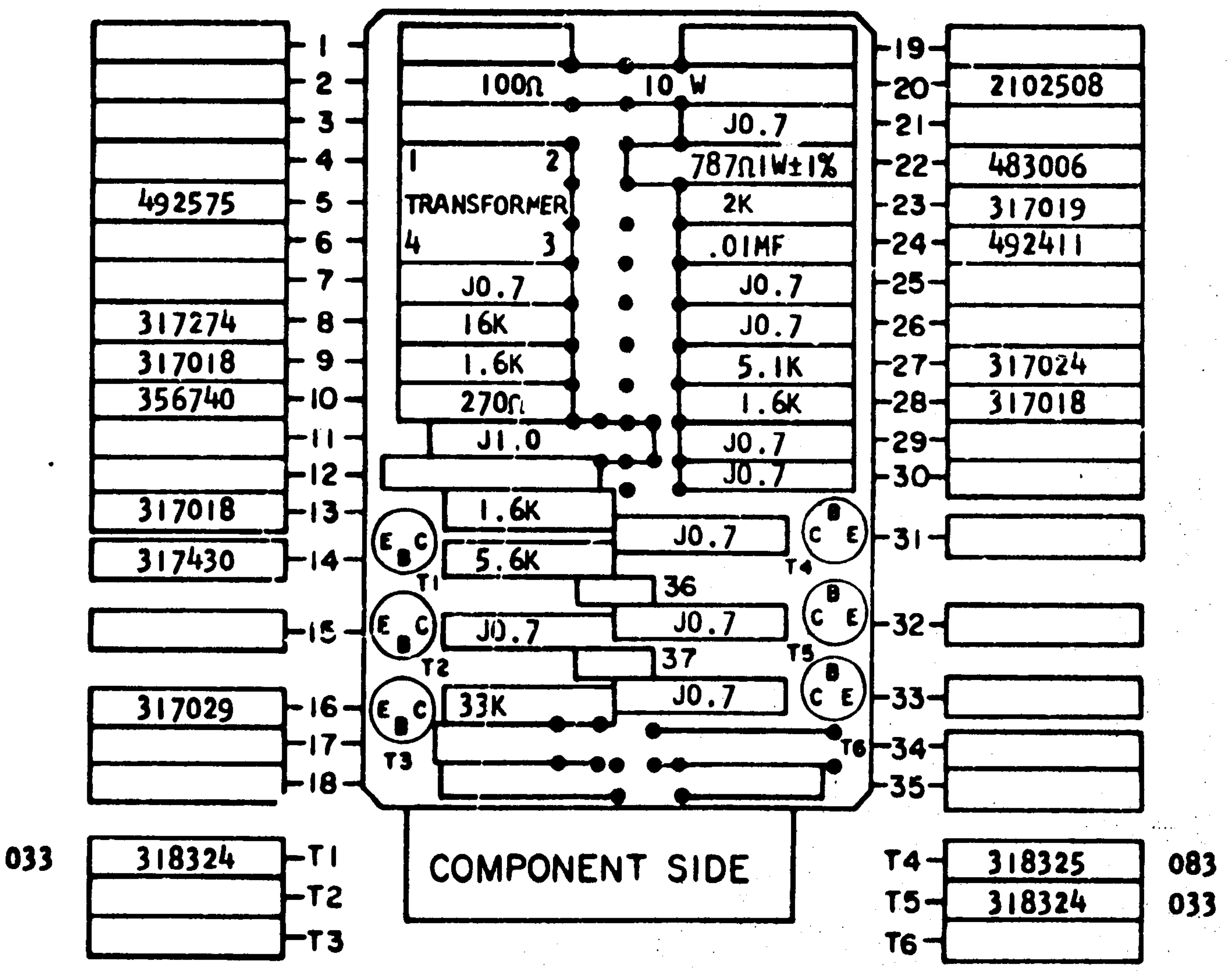
CTRL SORT COMPARE





B

WIRING SIDE



NOTES

I ASSEMBLE TO ENGINEERING SPECIFICATIONS 895396 AND 891999

II "J" IN BLOCK DENOTES BARE WIRE JUMPER. 491296

III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

IIII

IV CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892059

V CONTROLLED -20 VOLTS PIN A

CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
H D Hanford	3-18-60

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR- CTRL SORT COMPARE				
DESIGN	RF	3-21-60	MODEL	SMS 1210	
DETAIL	RF	3-21-60	SCALE	NONE	
CHECK	RF	4-7-60	DRAW	MKT	3-23-60
APPRO	BES	4-8-60	CHECK		3-23-60

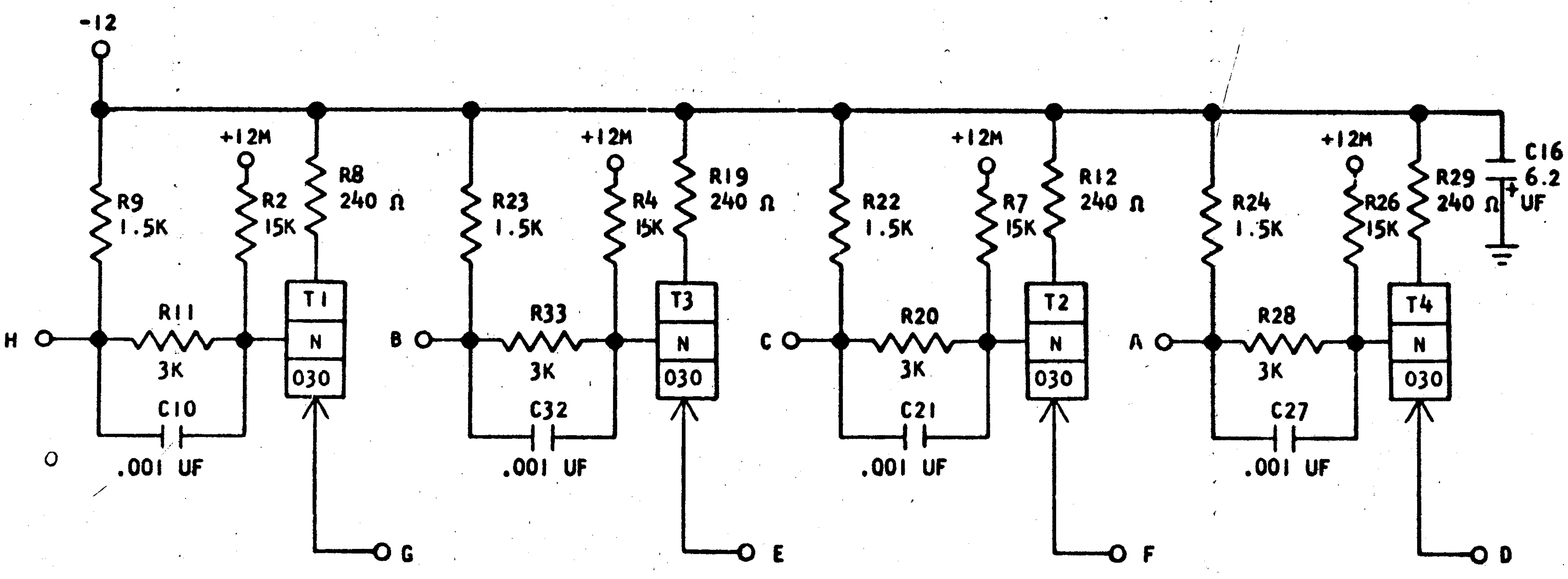
DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
4-14-60	108618					X0793
9-13-60	109603	IWB				
2-20-61	D110931	IWB				

370059

STANDARDS CODE	2-7045

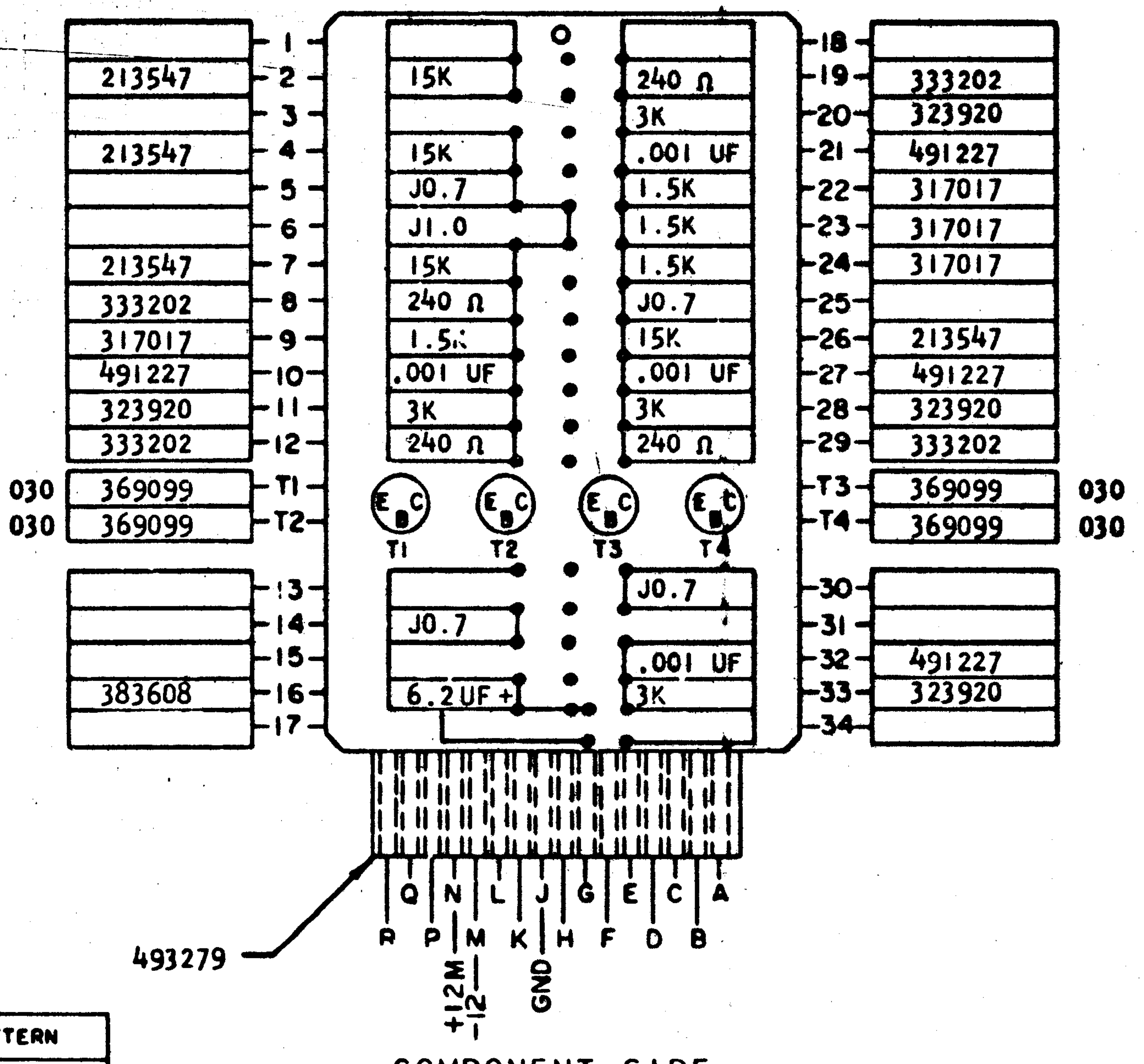
370066

SDTRL 93Ω COAX LINE DRIVER-DISPERSED LOADS



NOTES

- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892066
- II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- IV
- V
- VI REFER TO FIELD SERVICE DRAWING PART NUMBER 729933 WHEN MAKING A CHANGE TO THIS CIRCUIT



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT	4-5-60

HOLE PATTERN
491329

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- SDTRL 93 Ω COAX LINE DRIVER-DISPERSED LOADS			
DESIGN	REM	1-28-60	TYPE	SMS
DETAIL	CWE	1-29-60	SCALE	NONE
CHECK	PGB	1-29-60	DRAW	VE 5-18-60
APPRO	BES	5-24-60	CHECK	CLW 5-18-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
5-25-60	108818	NOTE V	11-7-62	114364	MDL
8-15-60	109630	NOTE V			
7-24-61	112396	NOTE V			
1-3-62	113130	IWB			
3-12-62	REDRAWN	MDL			

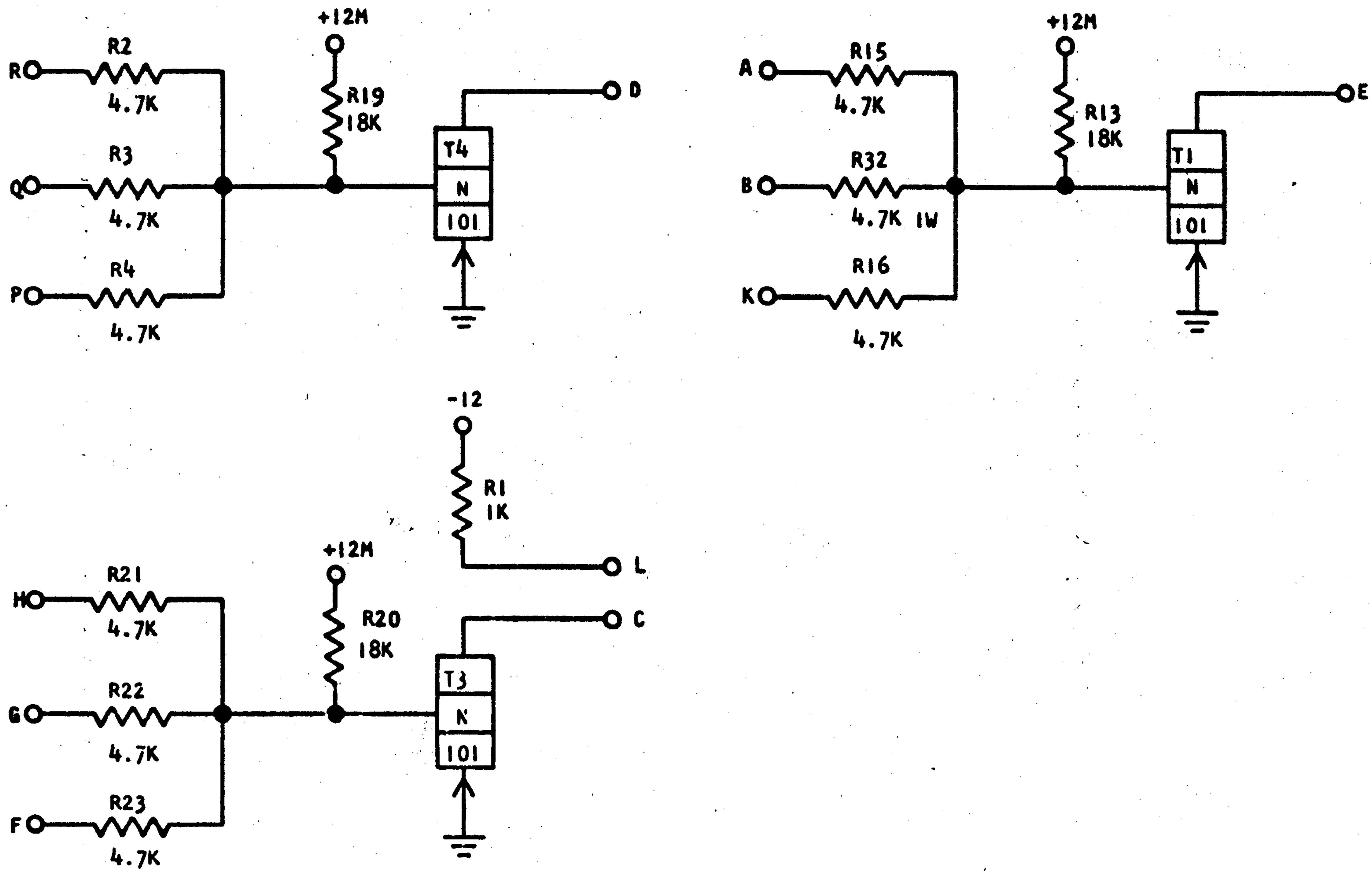
DEVELOPMENT NO.
2547-1026

370066

370083	D A W -
STANDARDS CODE	2-7045

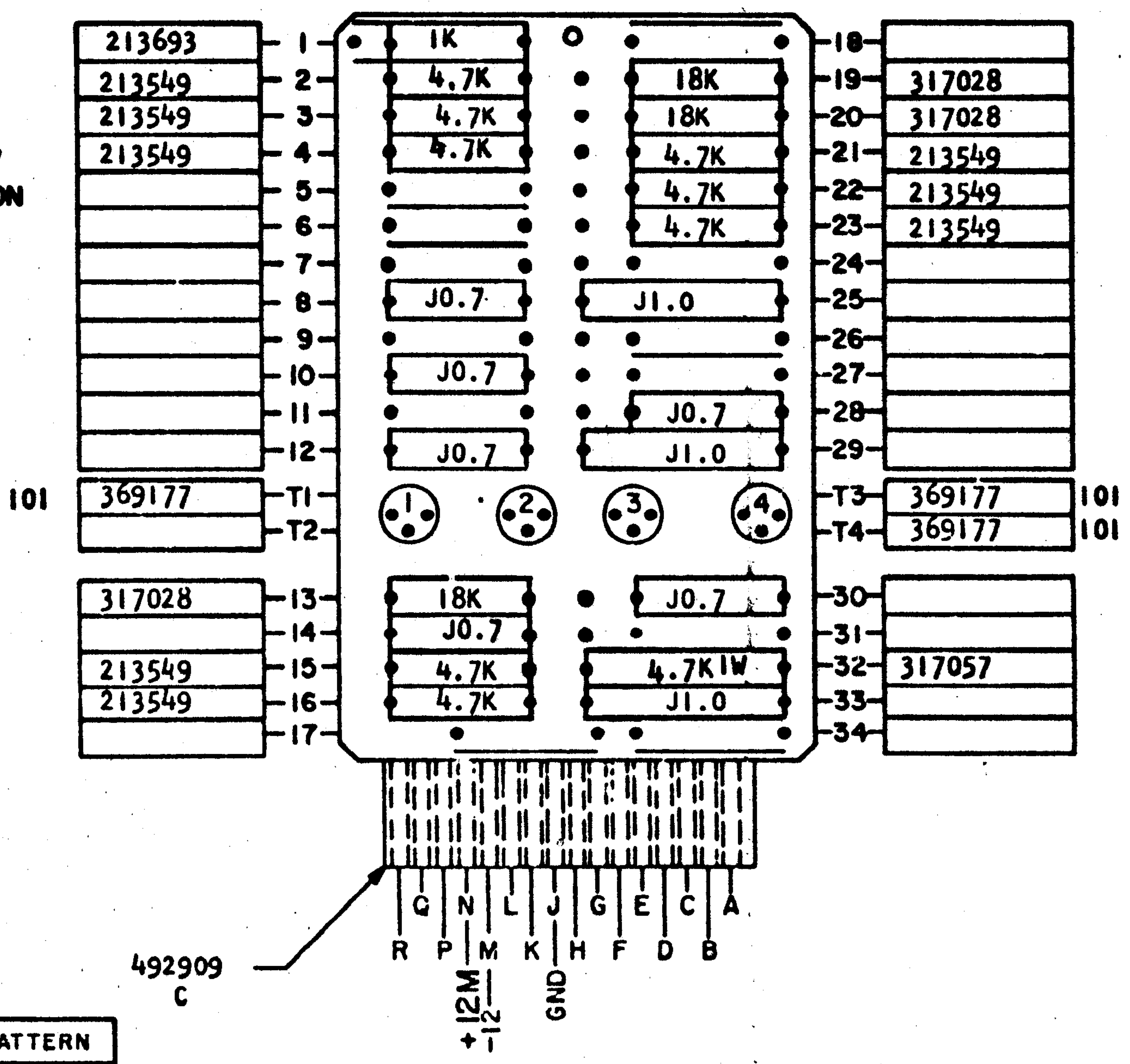
370083

SDTRL - INVERTER, 3 WAY, UNLOADED COLLECTORS



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892367
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- XIV
- XV POSITIONS T1, T3, T4 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING.



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
LIP KMT	3-18-60

HOLE PATTERN
491329

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- SDTRL - INV, 3 WAY, UNLOADED COLLECTORS			
DESIGN	PPH	3-15-60	MODEL	SMS
DETAIL	PPH	3-15-60	SCALE	NONE
CHECK	GHS	3-17-60	DRAW	LIG 3-13-62
APPRO	BES	5-4-60	CHECK	

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
SEE INDEX CARD					
2-23-61	111233	NOTE XV			
5-25-61	112019	NOTE XV			
5-22-62	113942	NOTE XIV			
10-11-62	113628	LHR			

DEVELOPMENT NO.
2547-1023

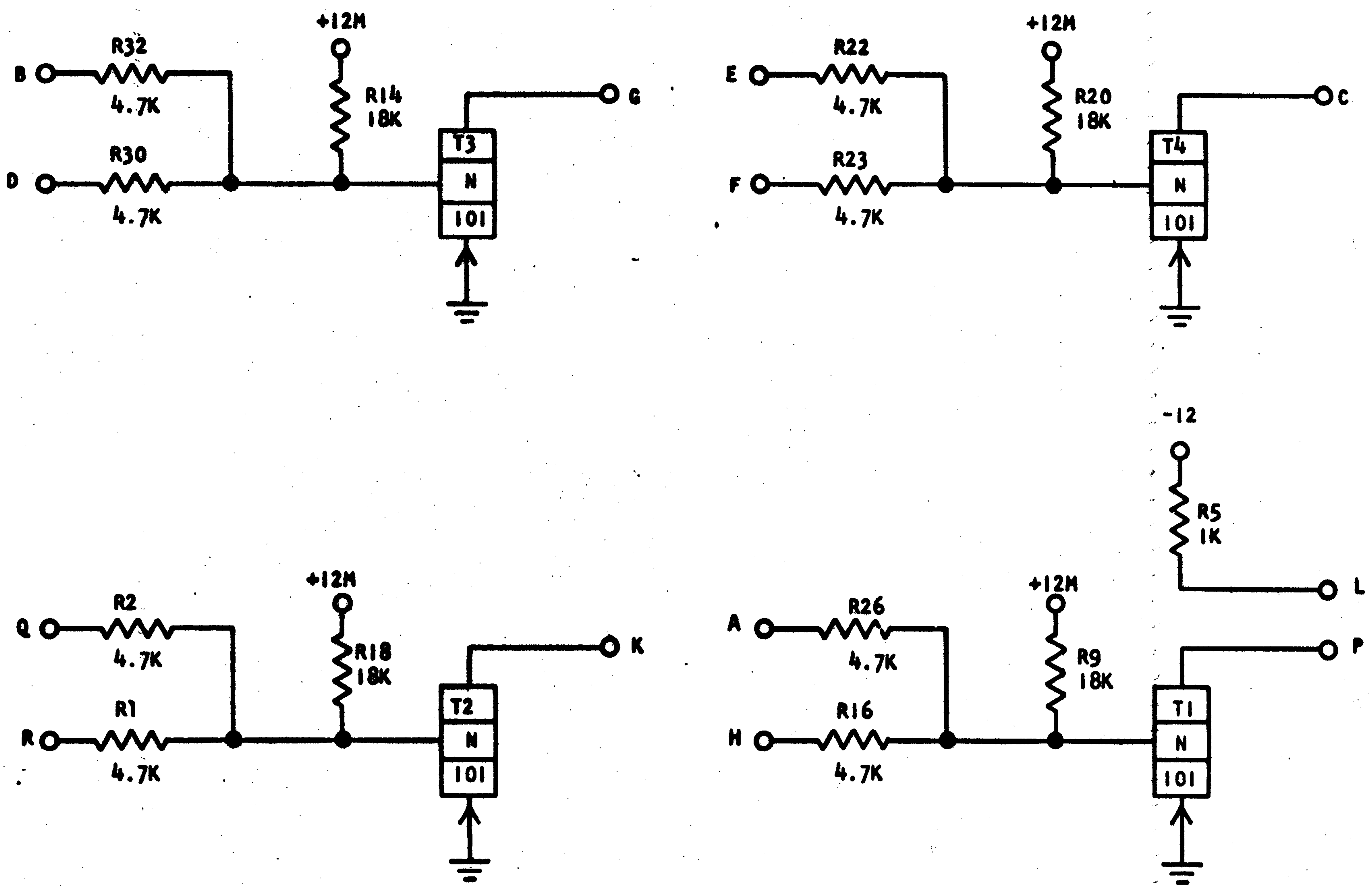
370083

82-3977-1 6-22-61

370084	DAX-
STANDARDS CODE	2-7045

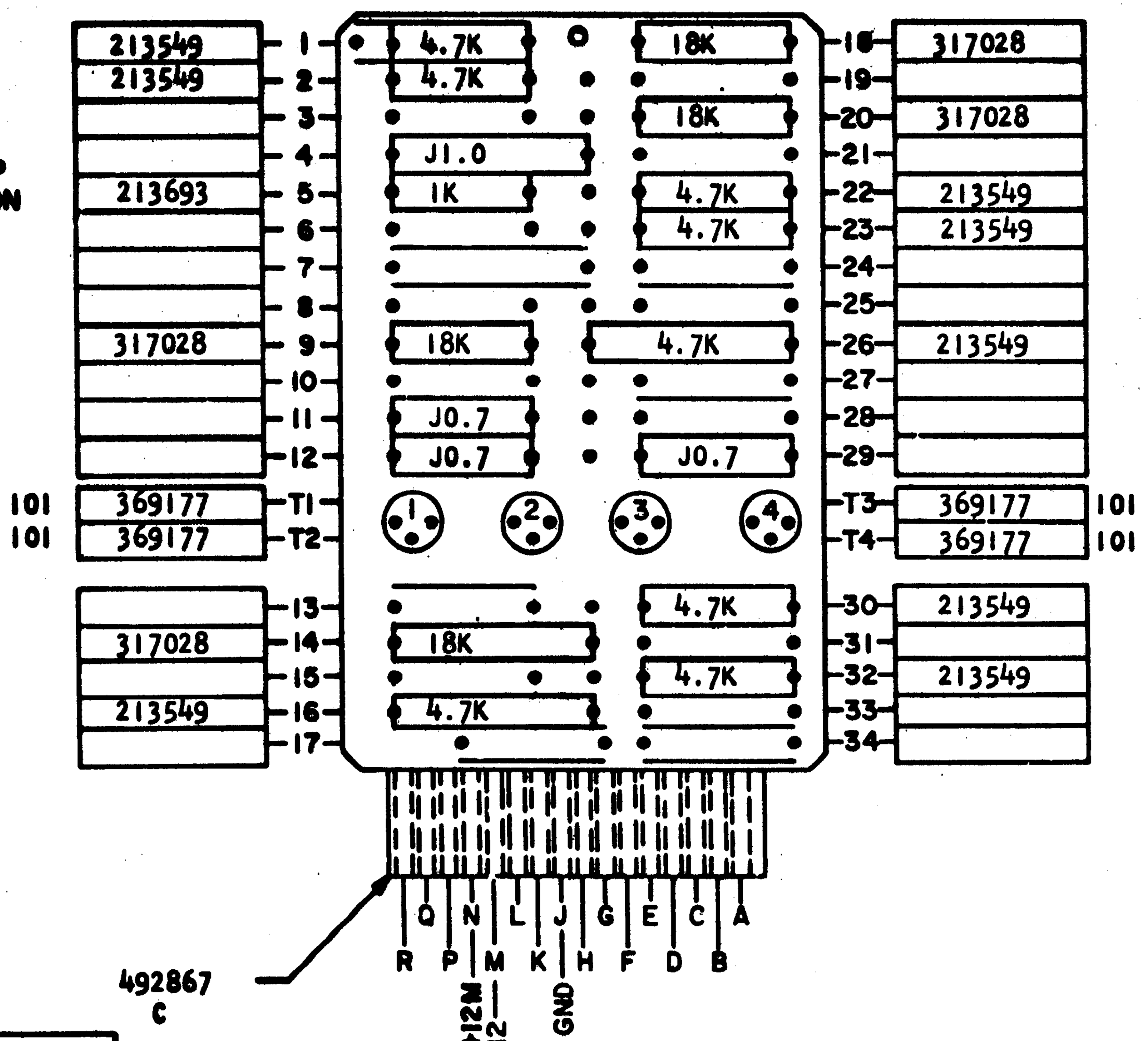
370084

SDTRL-INVERTER, 2 WAY, UNLOADED COLLECTORS



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892360
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV
- XV POSITIONS T1, T2, T3, T4, ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING



B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
LIP KMT	3-18-60

HOLE PATTERN
491329

COMPONENT SIDE

INTERNATIONAL BUSINESS MACHINES CORP.			
NAME	CARD ASM TSTR-SDTRL INVERTER, 2 WAY, UNLOADED COLLECTORS		
DESIGN	GHS 3-17-60	MODEL	SMS
DETAIL	GHS 3-17-60	SCALE	NONE
CHECK	PPH 3-18-60	DRAW	LIG 3-19-62
APPRO	BES 5-4-60	CHECK	

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
SEE INDEX CARD			2-1-64	D119692	FVL
3-3-61	111272	NOTE XV			
5-25-61	112019	NOTE XV			
5-23-62	113942	*NOTE XIV*			
11-7-62	114364	MDL			

DEVELOPMENT NO.
2547-1024

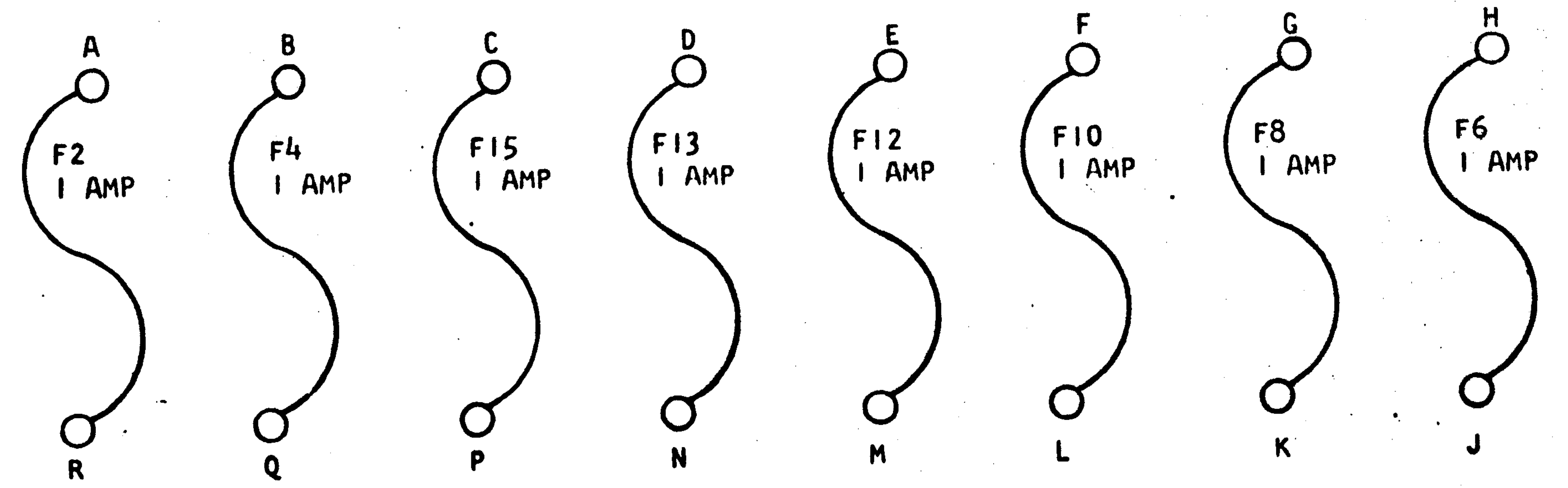
370084

82-3977-1   6-22-61

370093

STANDARDS CODE	
370093	YAA-
2-7045	

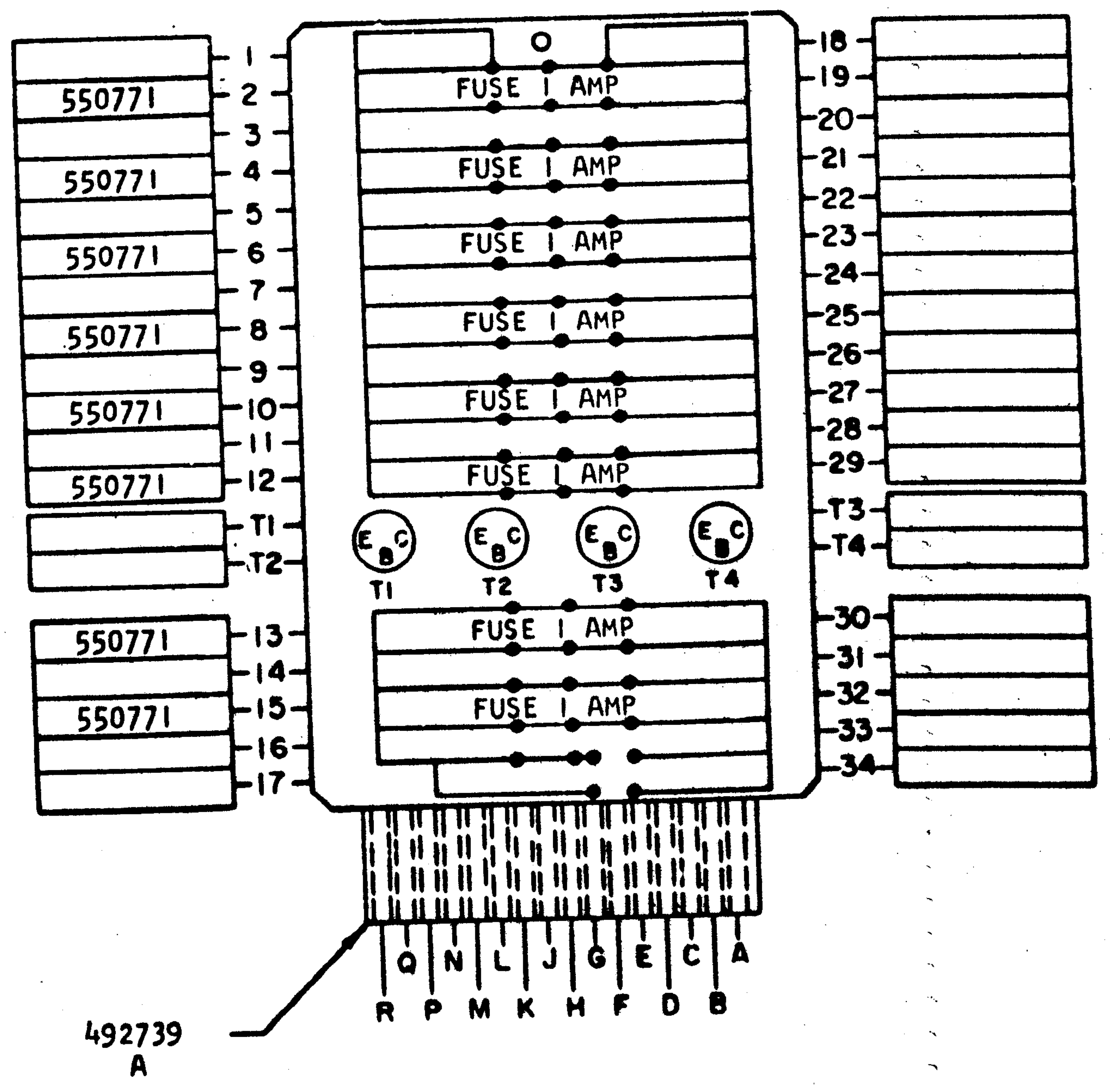
FUSE CARD - 1 AMP



NOTES

Ⅰ TEST TO ENGINEERING SPECIFICATION

Ⅱ ASSEMBLE TO ENGINEERING SPECIFICATIONS 895396 AND 891999



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT	5-4-60

INTERNATIONAL BUSINESS MACHINES CORP.			
NAME	CARD ASM TSTR- FUSE CARD 1 AMP		
DESIGN GHS	5-3-60	TYPE	SMS 7615
DETAIL GHS	5-3-60	SCALE	NONE
CHECK TY	5-4 60	DRAW VE	5-16-60
APPRO BE	5-18-60	CHECK	5-16-60

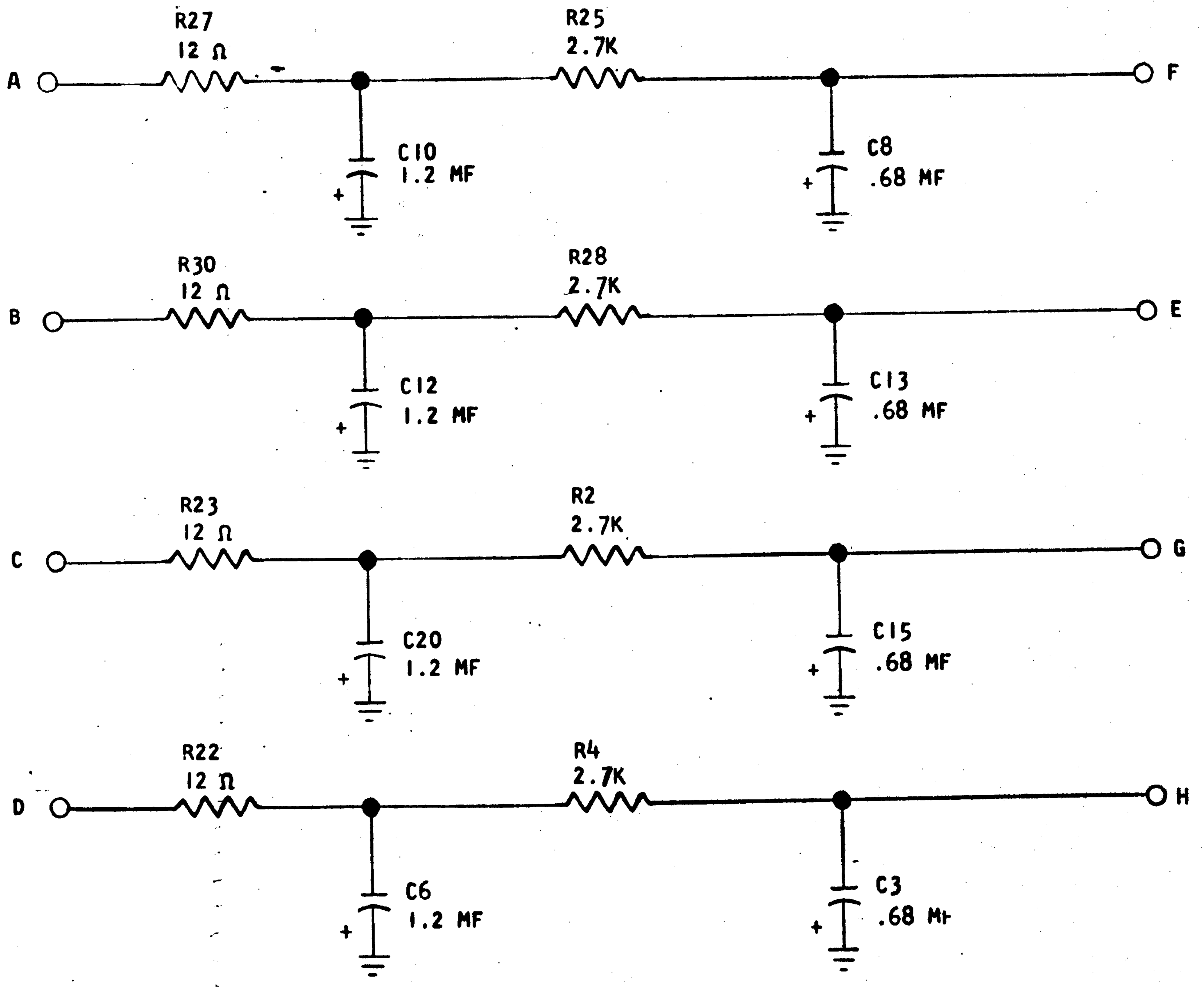
DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
5-19-60	108983	JWB				2547-1096

370093

370095

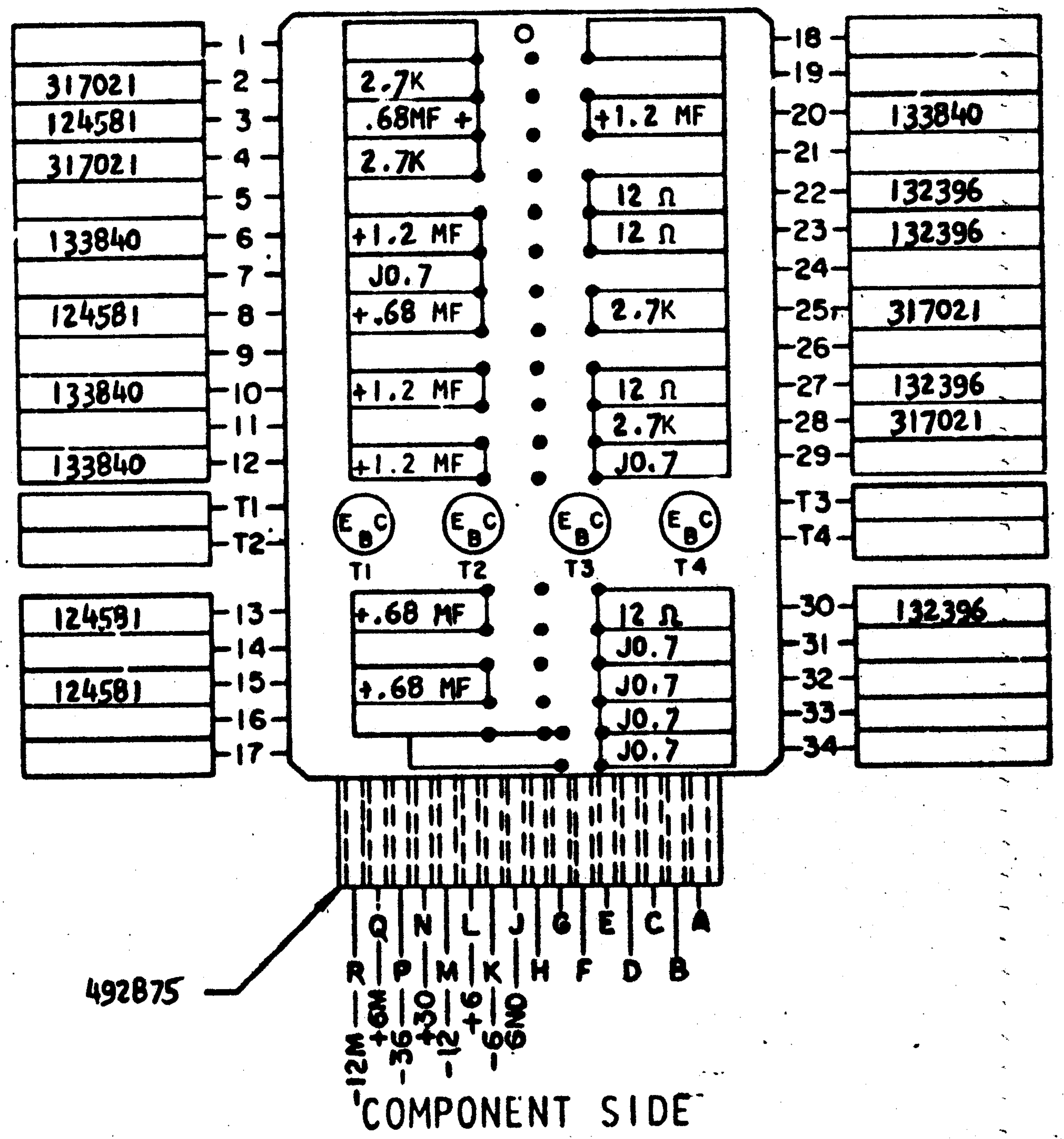
370095	YAB-
STANDARDS CODE	2-7045

MISC -12V TO S-LINE INTEGRATOR



NOTES

- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892095
- II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- IV -ASSEMBLE WITH JEDEC TRANSISTOR



B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT PDB	5-6-60

INTERNATIONAL BUSINESS MACHINES CORP.			
NAME	CARD ASM TSTR-MISC -12V TO S-LINE INTEGRATOR		
DESIGN	VJK 5-2-60	TYPE	SMS UNIV PRINT
DETAIL	VJK 5-2-60	SCALE	NONE
CHECK	GHS 5-8-60	DRAW	PJZ 5-27-60
APPRO	6-21-60	CHECK	5-27-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
6-22-60	109180	JWB				2547-1118

370095

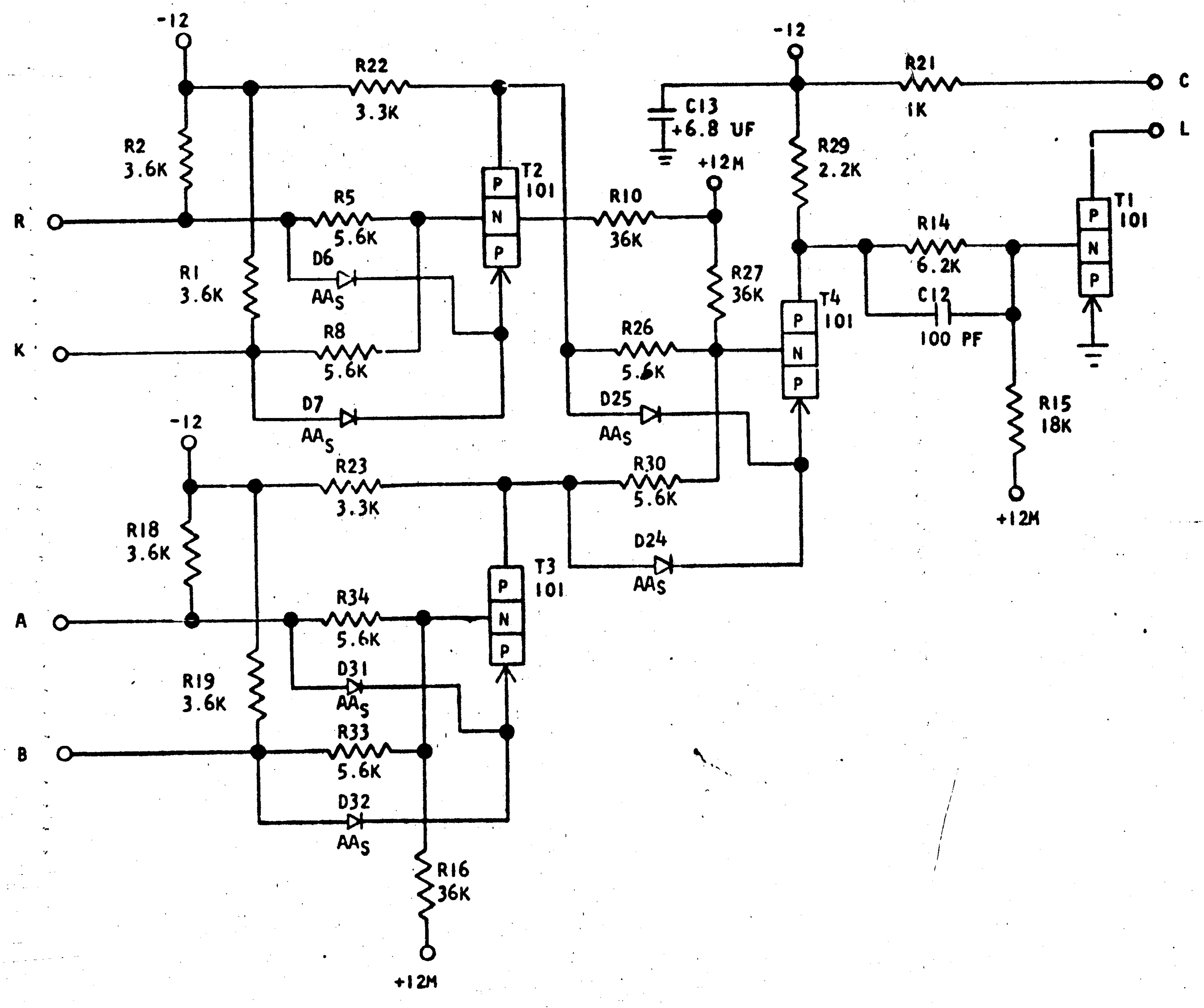
370106

T A S -

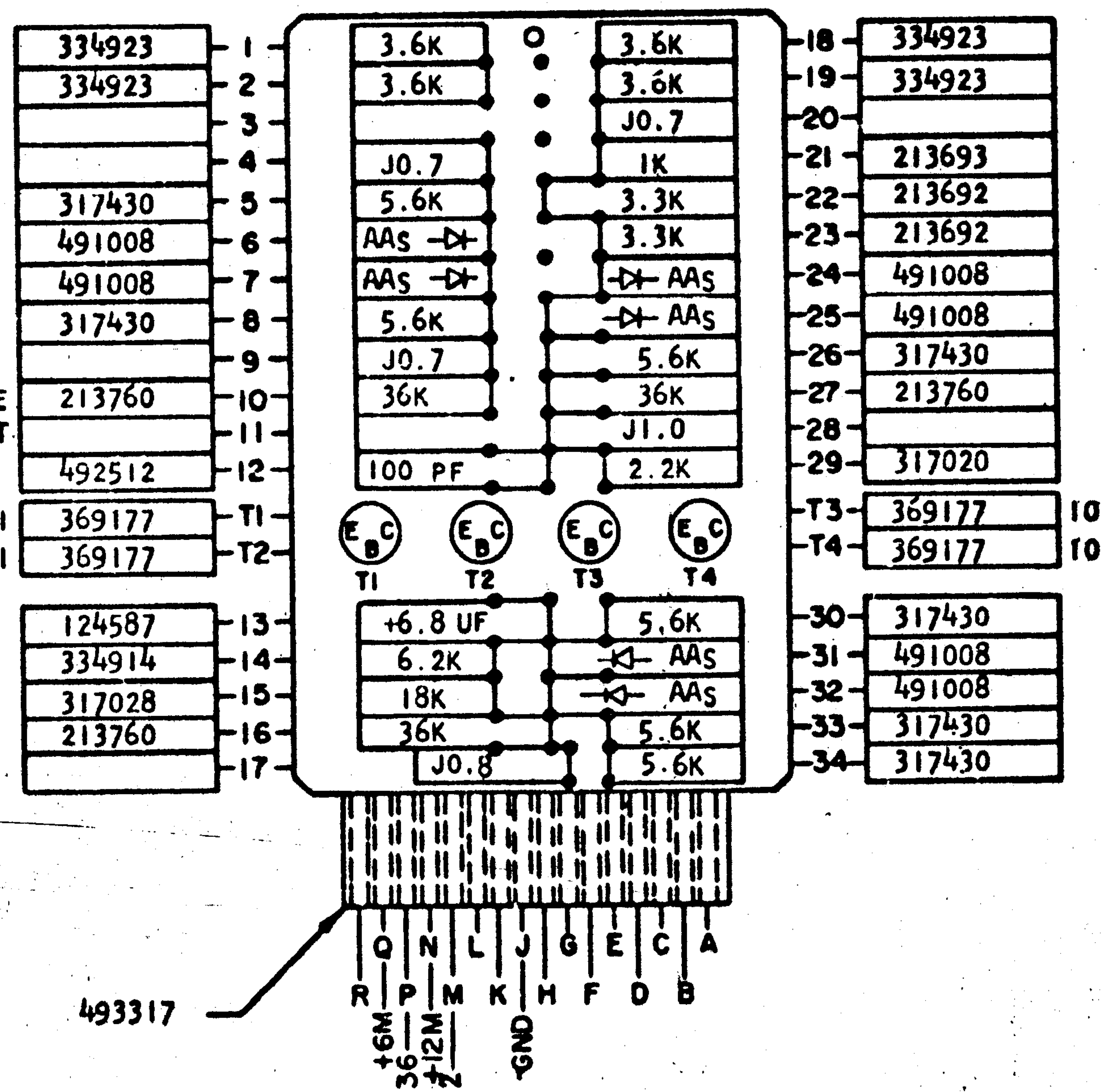
STANDARDS CODE 2-7045

SDTRL - EXCLUSIVE "OR" (PYRAMID)

370106
RESTRICTED
NOTE XIV



NOTES
- ○ I TEST TO ENGINEERING SPECIFICATION 892106
- II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER. 491296
- * XIV TECHNICAL LABORATORY EVALUATION INCOMPLETE ADDITIONAL USAGE TO BE AVOIDED. THIS PART SUBJECT TO WITHDRAWAL
- * XV MOUNT TRANSISTOR 369177 WITH TRANSISTOR SPACER 483070



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT OBB	5-10-60

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- SDTRL- EXCLUSIVE "OR" (PYRAMID)				
DESIGN	WNS	1-19-60	TYPE	SMS	
DETAIL	CWE	1-27-60	SCALE	NONE	
CHECK	WNS	1-28-60	DRAW	VE	5-23-60
APPRO	BC	6-7-60	CHECK	gm	5-24-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
6-7-60	108980	NOTE XIV			
10-25-60	110088	NOTE XIV			
3-1-61	111272	NOTE XIV			
5-25-61	112019	NOTE XIV			

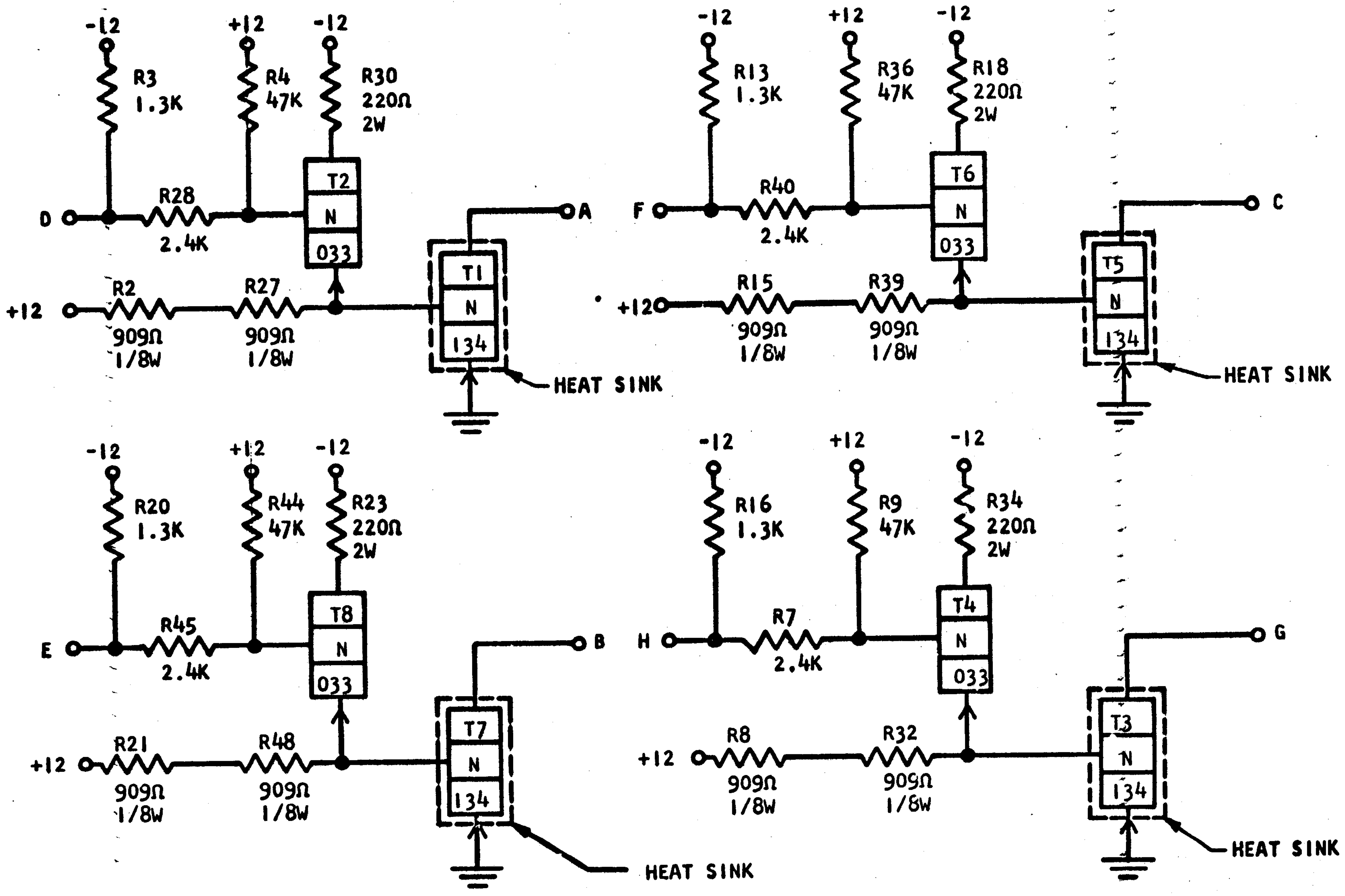
DEVELOPMENT NO.
2547-1145

370106

370126	A B N -
STANDARDS CODE	2-7045

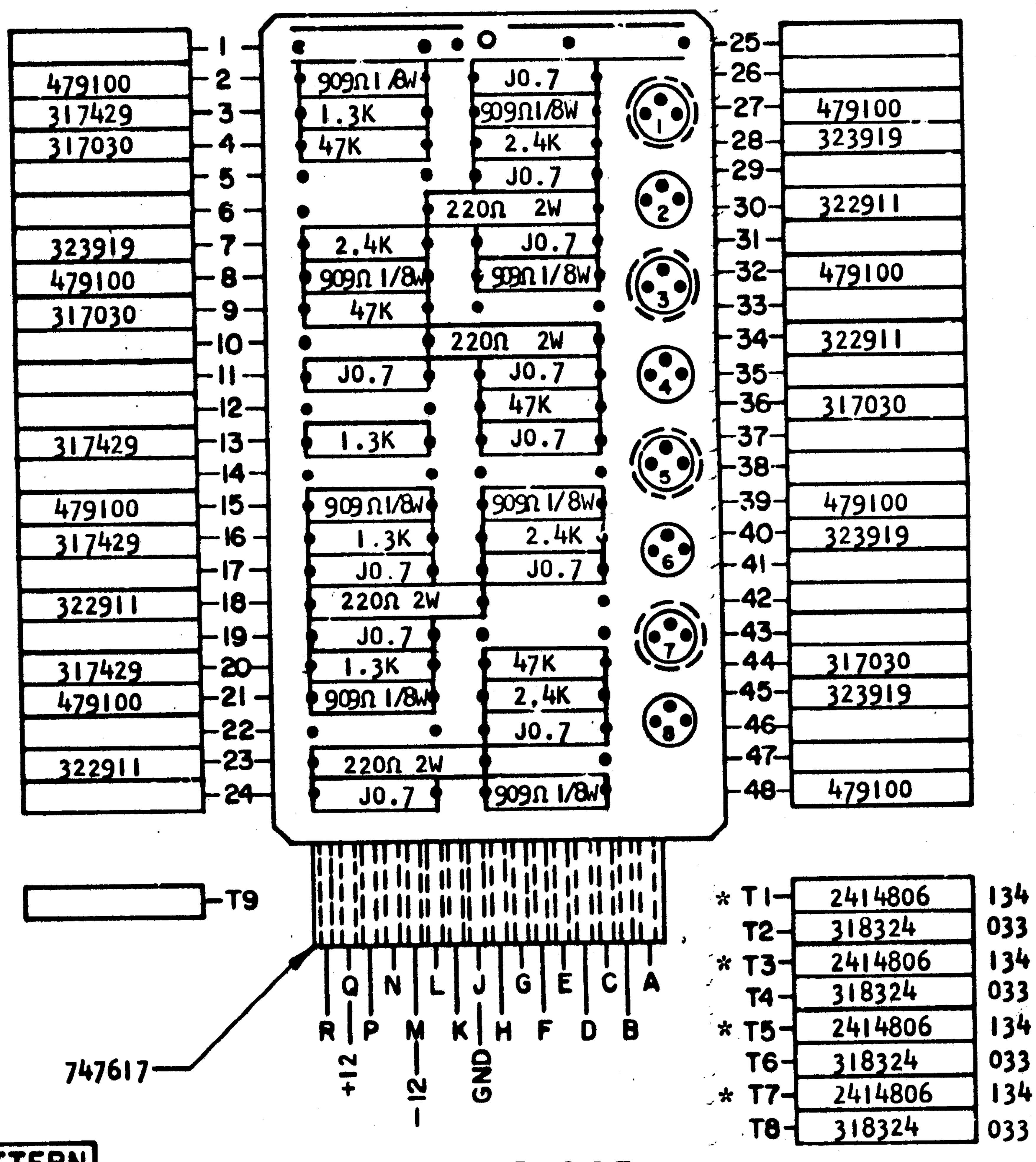
370126

ALLOY - FUNCTIONAL COIL DRIVER - 750 MA



NOTES

- **I** CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892126
- **XI** ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- **XII** ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED (AS NOTE XV)
- **XIII** "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- * **XIV** HEAT SINKS 492434 OR 492435 TO BE SELECTED AS REQUIRED.
- **XV** ALL 1/8 WATT RESISTORS ARE ±1%



B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT (GS)	6-13-60

HOLE PATTERN
747800

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR — ALLOY-FUNCTIONAL COIL DRIVER-750MA				
DESIGN	CB	5-26-60	MODEL	SMS 73AA	
DETAIL	RJF	6-1-60	SCALE	NONE	
CHECK	GS	6-1-60	DRAW	LIG	8-12-63
APPRO	BES	6-13-60	CHECK	GMB	9/5/63

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
6-13-60	109179	IWB				2547-1160
10-6-60	D110067	IWB				
12-19-63	117838	RWS				

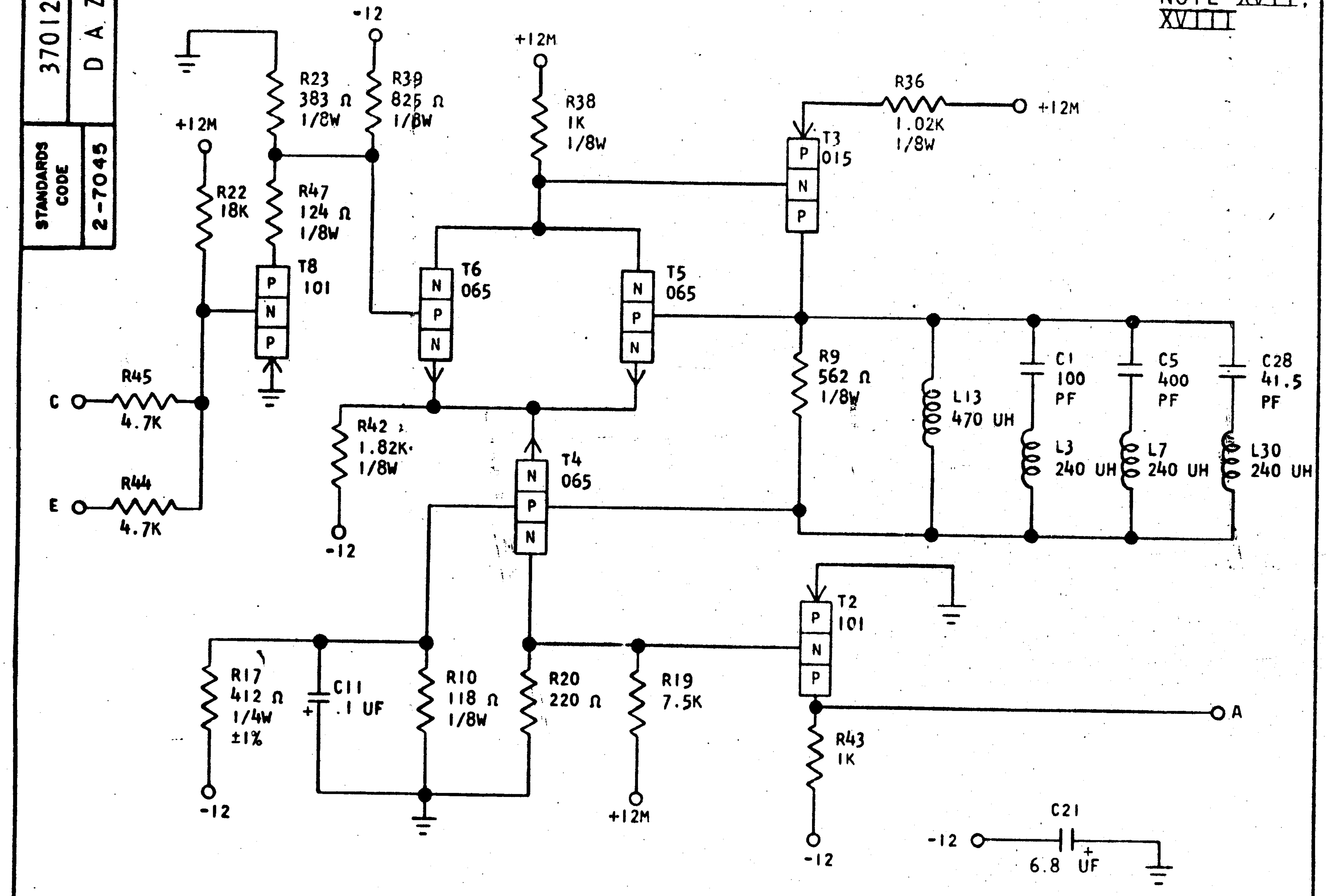
370126

82-3987-2 6-22-61

370127	D A Z -
STANDARDS CODE	2-7045

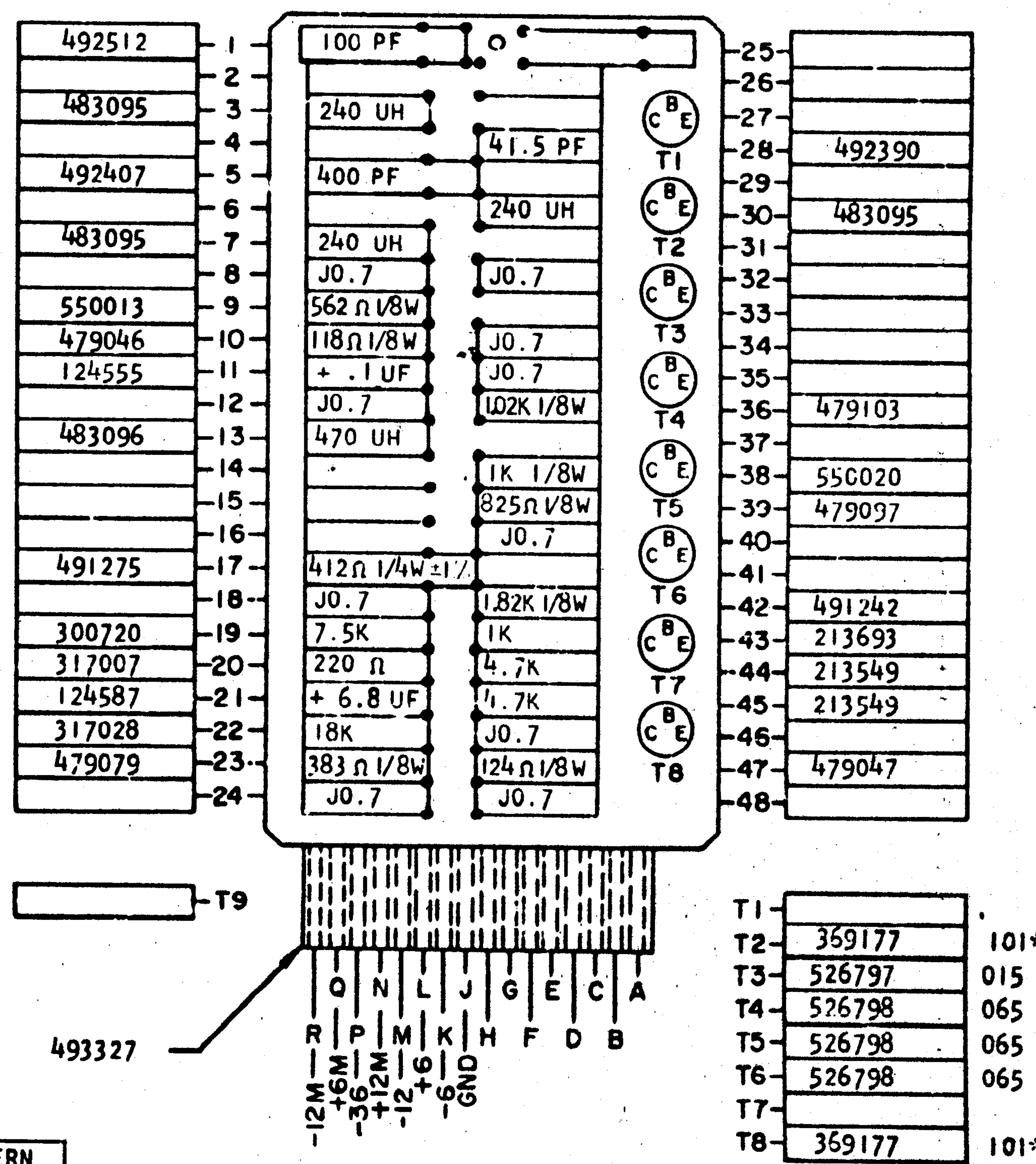
DIFF BASE - OSCILLATOR, 240 KC S LINE GATED

370127
RESTRICTED
NOTE XVII, XVIII



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892127
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED (AS NOTE XV)
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- XIV
- XV ALL 1/8 WATT RESISTORS ARE ±1% UNLESS OTHERWISE NOTED
- XVI MOUNT TRANSISTOR 369177 WITH TRANSISTOR SPACER 483070
- *XVII TECHNICAL LABORATORY EVALUATION INCOMPLETE. ADDITIONAL USAGE TO BE AVOIDED. THIS PART SUBJECT TO WITHDRAWAL.
- XVIII RESTRICTED TO THE UTA MACHINE ONLY



493327

492512	1
	2
483095	3
	4
492407	5
	6
483095	7
	8
550013	9
479046	10
124555	11
	12
483096	13
	14
	15
	16
491275	17
	18
300720	19
317007	20
124587	21
317028	22
479079	23
	24

25	
26	
27	
28	492390
29	
30	483095
31	
32	
33	
34	
35	
36	479103
37	
38	550020
39	479097
40	
41	
42	491242
43	213693
44	213549
45	213549
46	
47	479047
48	

T1		
T2	369177	101*
T3	526797	015
T4	526798	065
T5	526798	065
T6	526798	065
T7		
T8	369177	101*

COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT	5-9-60

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- DIFF. BASE OSCILLATOR 240 KC S LINE GATED				
DESIGN			TYPE	SMS UTA	
DETAIL	CB	6-27-60	SCALE	NONE	
CHECK	CB	6-27-60	DRAW	VE	6-22-60
APPRO	BES	7-12-60	CHECK	CLW	6-22-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
7-12-60	109623	NOTE XVII			
3-3-61	111272	NOTE XVII			
5-27-61	112020	NOTE XVII			
8-28-61	112437	NOTE XVII			

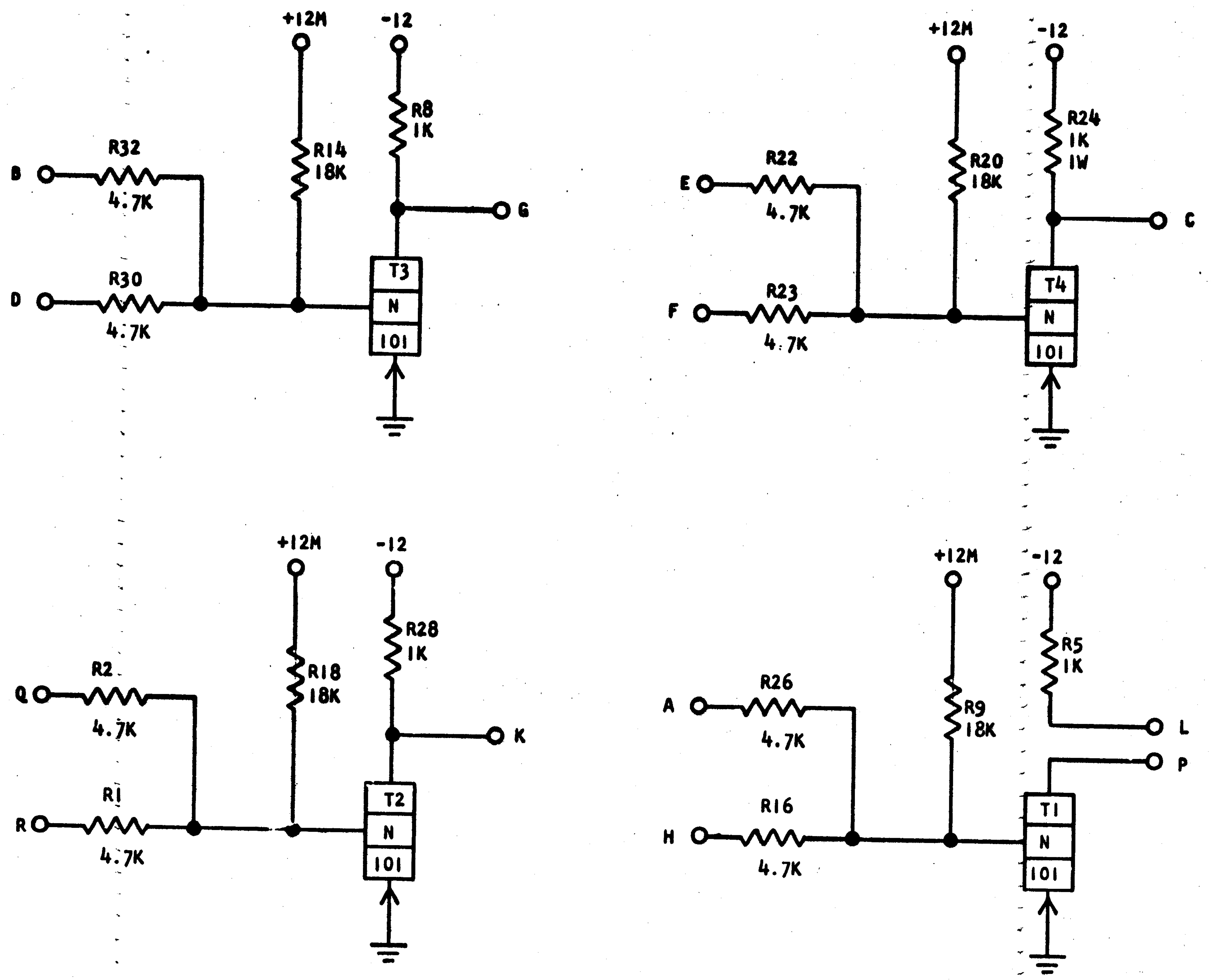
DEVELOPMENT NO.
2547-1138

370127

RD

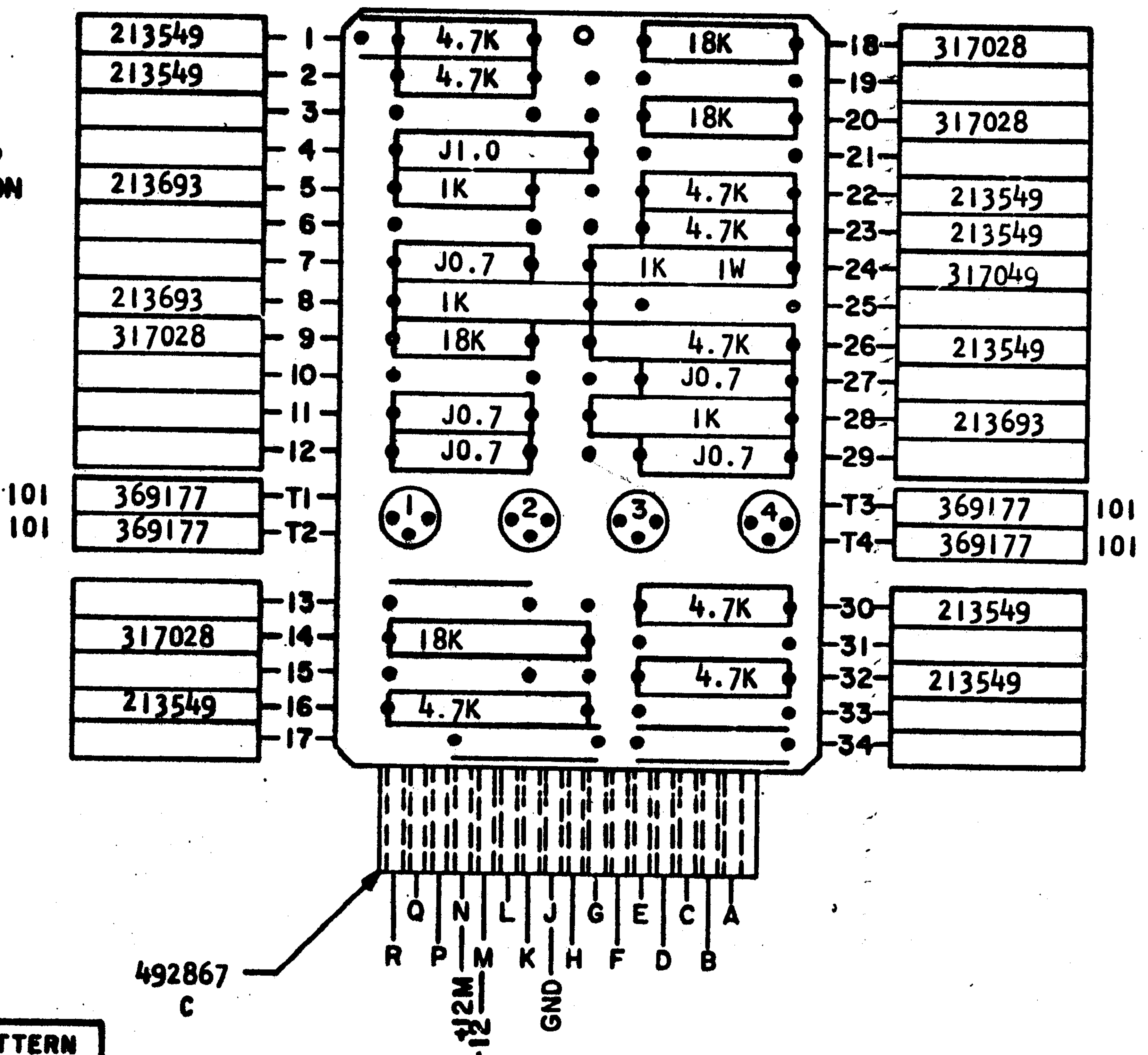
370129	TAU -
STANDARDS CODE	2-7045

SDTRL-2 WAY INVERTER NUMBER 2



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892366
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV
- XV POSITIONS T1, T2, T3, T4, ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT (GHS)	5-25-60

HOLE PATTERN
491329

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR-SDTRL- 2 WAY INVERTER NUMBER 2			
DESIGN	VJK	5-25-60	MODEL	SMS
DETAIL	VJK	5-25-60	SCALE	NONE
CHECK	GHS	5-25-60	DRAW	LIG 3-19-62
APPRO	BES	6-21-60	CHECK	

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
SEE INDEX CARD			2-1-64	D119692	FVL
3-1-61	111272	NOTE XV			
5-25-61	112019	NOTE XV			
5-23-62	113942	NOTE XIV			
11-7-62	114364	MDL			

DEVELOPMENT NO.
2547-1177

370129

82-3977-1 6-22-61

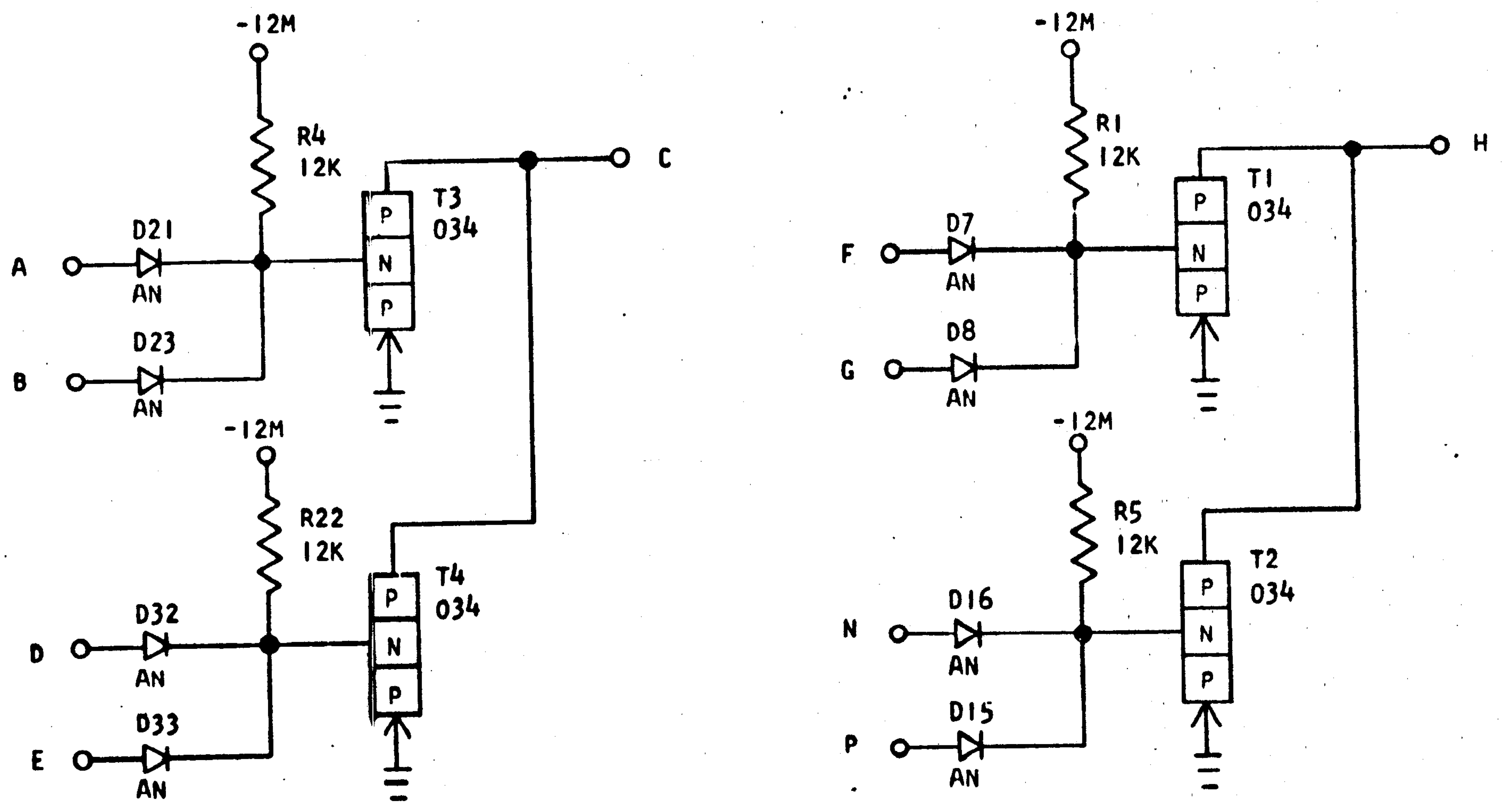
370141

3J MX

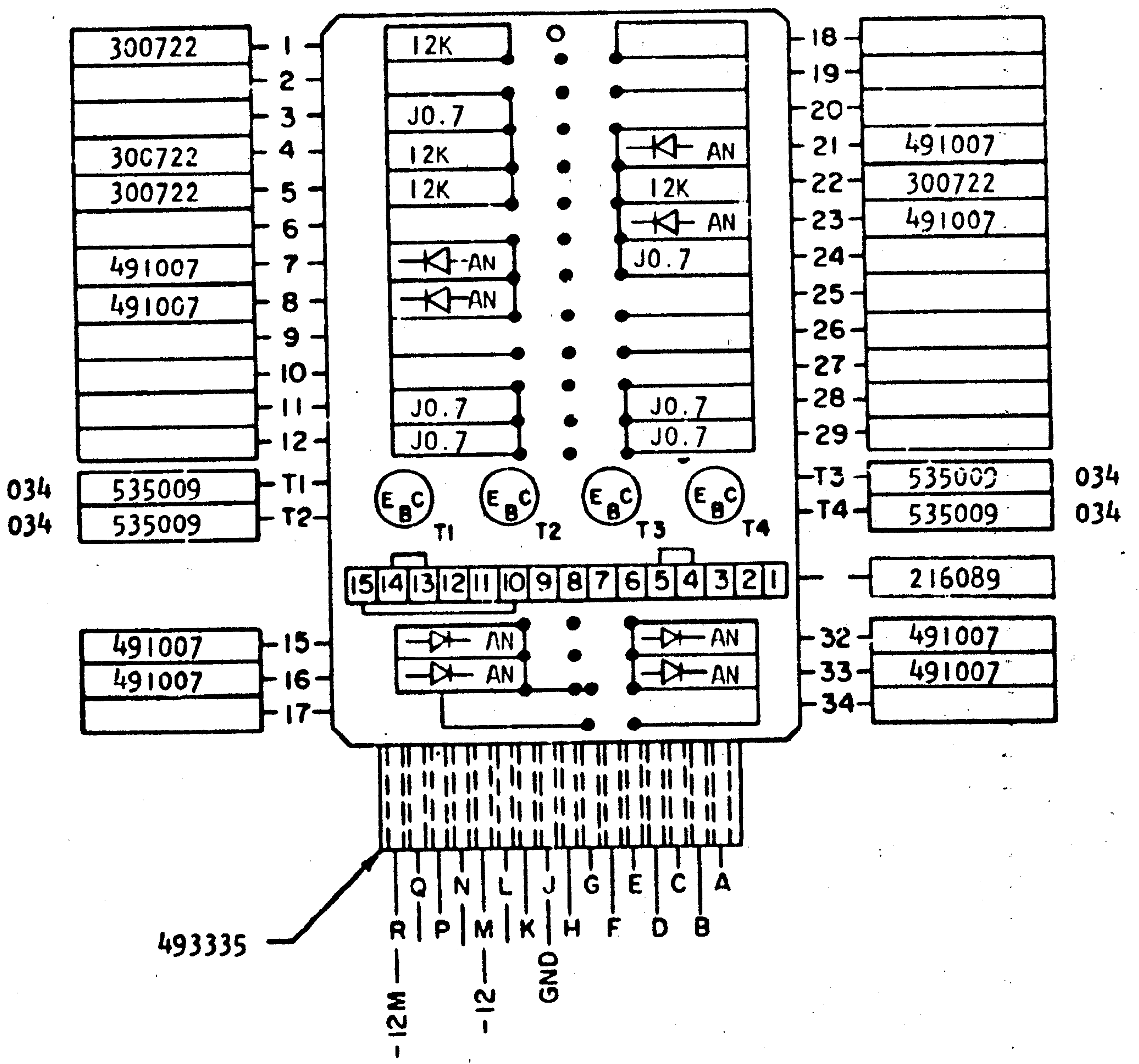
STANDARDS CODE 2-7045

370141

CTDL PNP TWO WAY GATE WITHOUT COLLECTOR LOAD



NOTES
- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892141
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER. 491296
- XIV 491299-ASSEMBLE WITH JEDEC TRANSISTOR



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H. B. Harding / UHL	5-31-60

INTERNATIONAL BUSINESS MACHINES CORP.

NAME CARD ASM TSTR-CTDL PNP TWO WAY GATE WITHOUT COLLECTOR LOAD

DESIGN	CB	6-21-60	TYPE	SMS 1401	
DETAIL	CB	6-21-60	SCALE	NONE	
CHECK	CB	6-21-60	DRAW	VE	6-14-60
APPRO	BCS	6-23-60	CHECK	JM	6-15-60

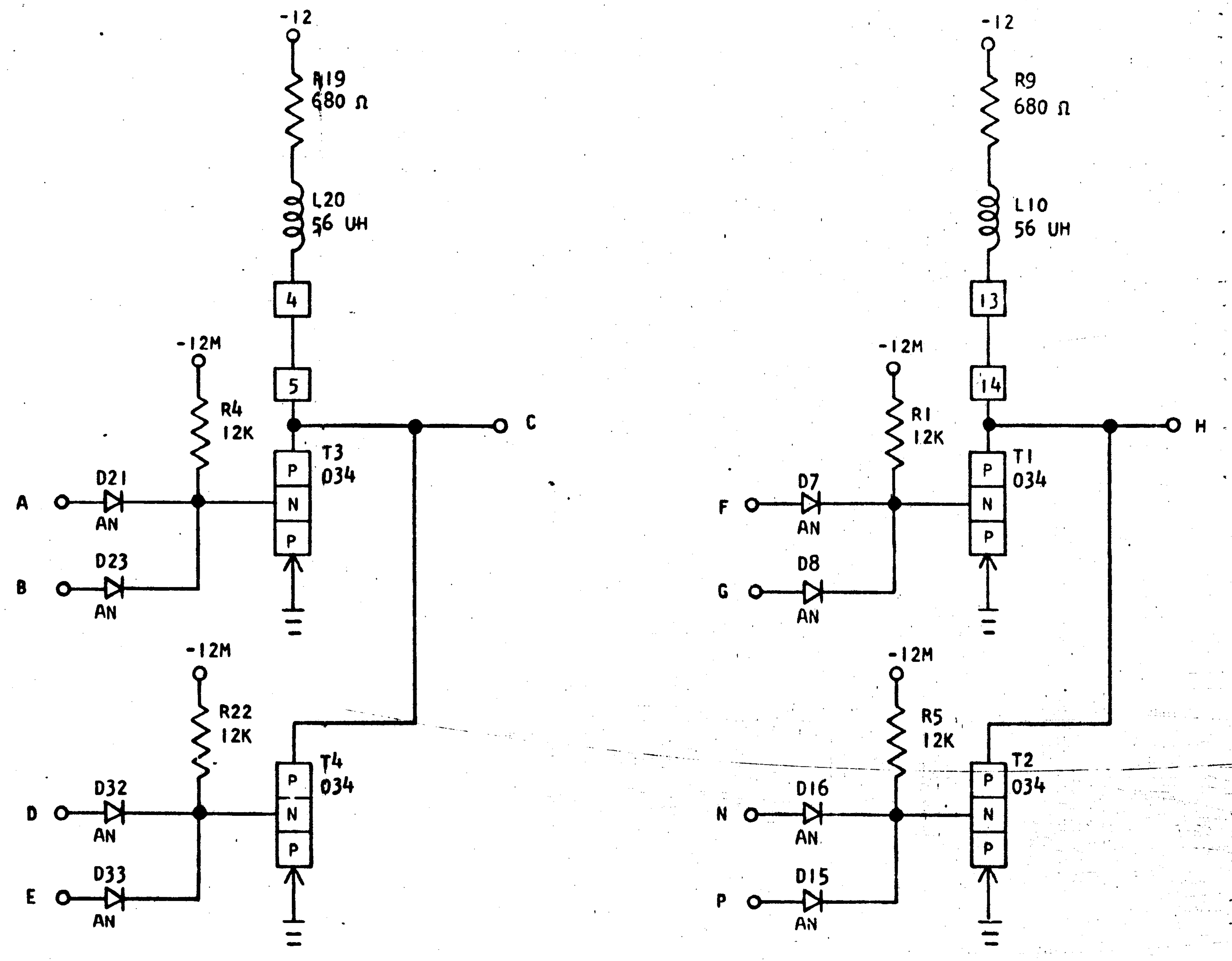
DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
6-23-60	109626	JWB				X0764

370141

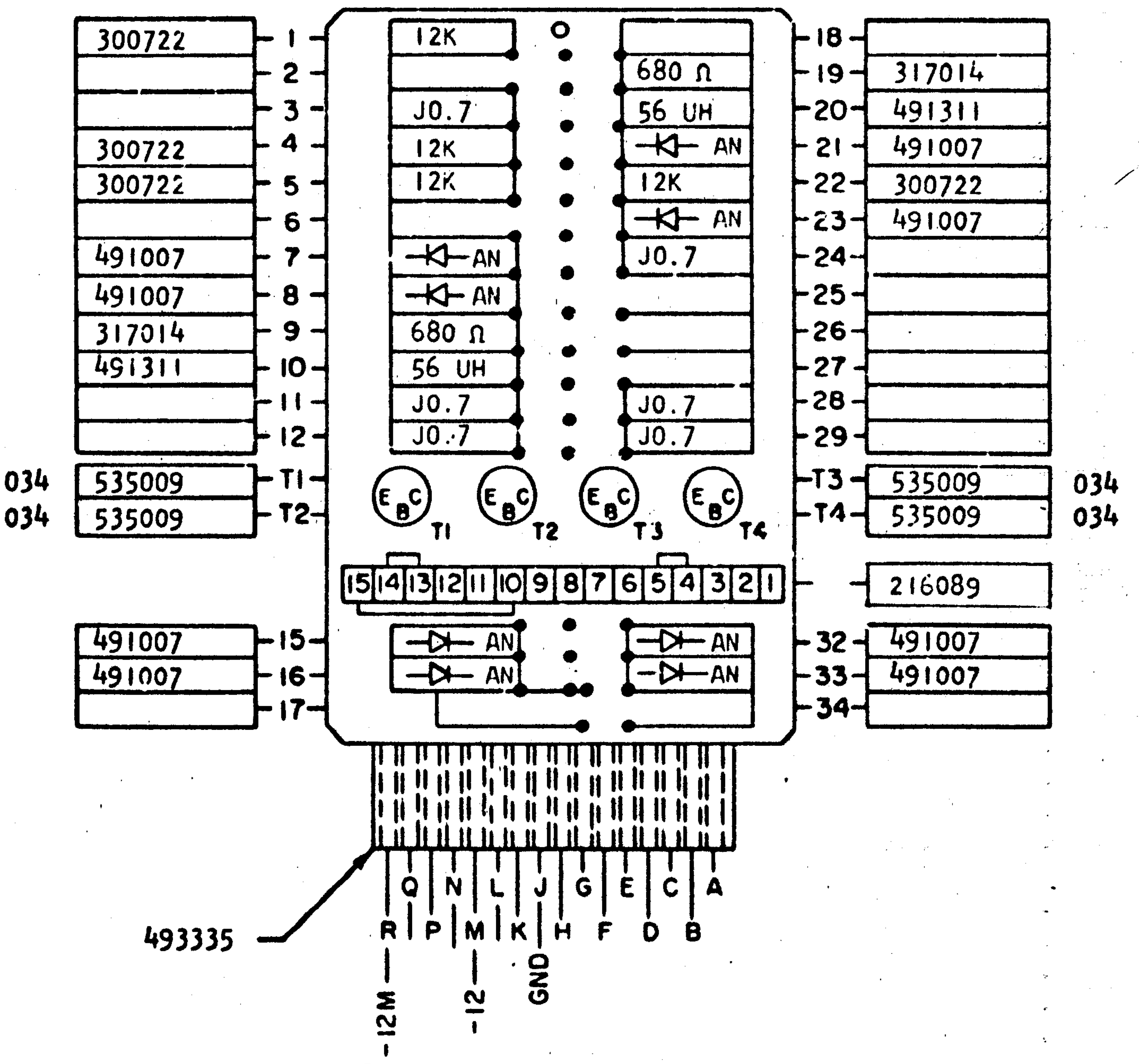
370142	4J MX
STANDARDS CODE	2-7045

370142

CTDL PNP TWO WAY GATE WITH COLLECTOR LOAD



NOTES
- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892141
- II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER. 491296
- IV 491299-ASSEMBLE WITH JEDEC TRANSISTOR



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H D Hanford	5-31-60

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR-CTDL PNP TWO WAY GATE WITH COLLECTOR LOAD		
DESIGN	CB 6-...	TYPE	SMS 1401
DETAIL	CB 6-2-60	SCALE	NONE
CHECK	CB 6-2-60	DRAW	VE 6-13-60
APPRO	BSE 6-23-60	CHECK	6-15-60

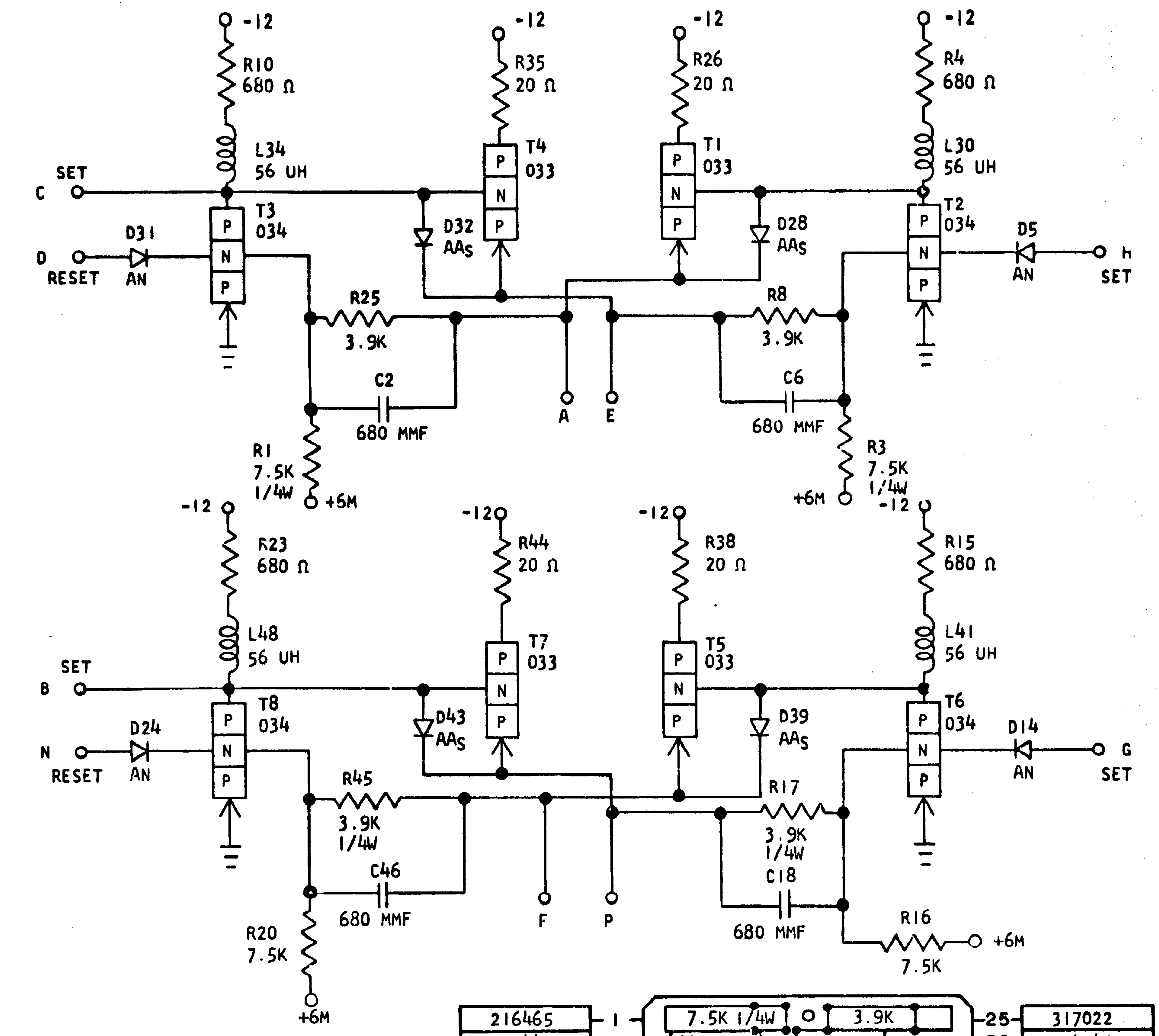
DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
6-23-60	109626	JWB				X0765

370142

370143	C E K -
STANDARDS CODE	2-7045

CTDL PNP - INVERTER LATCH

370143



NOTES

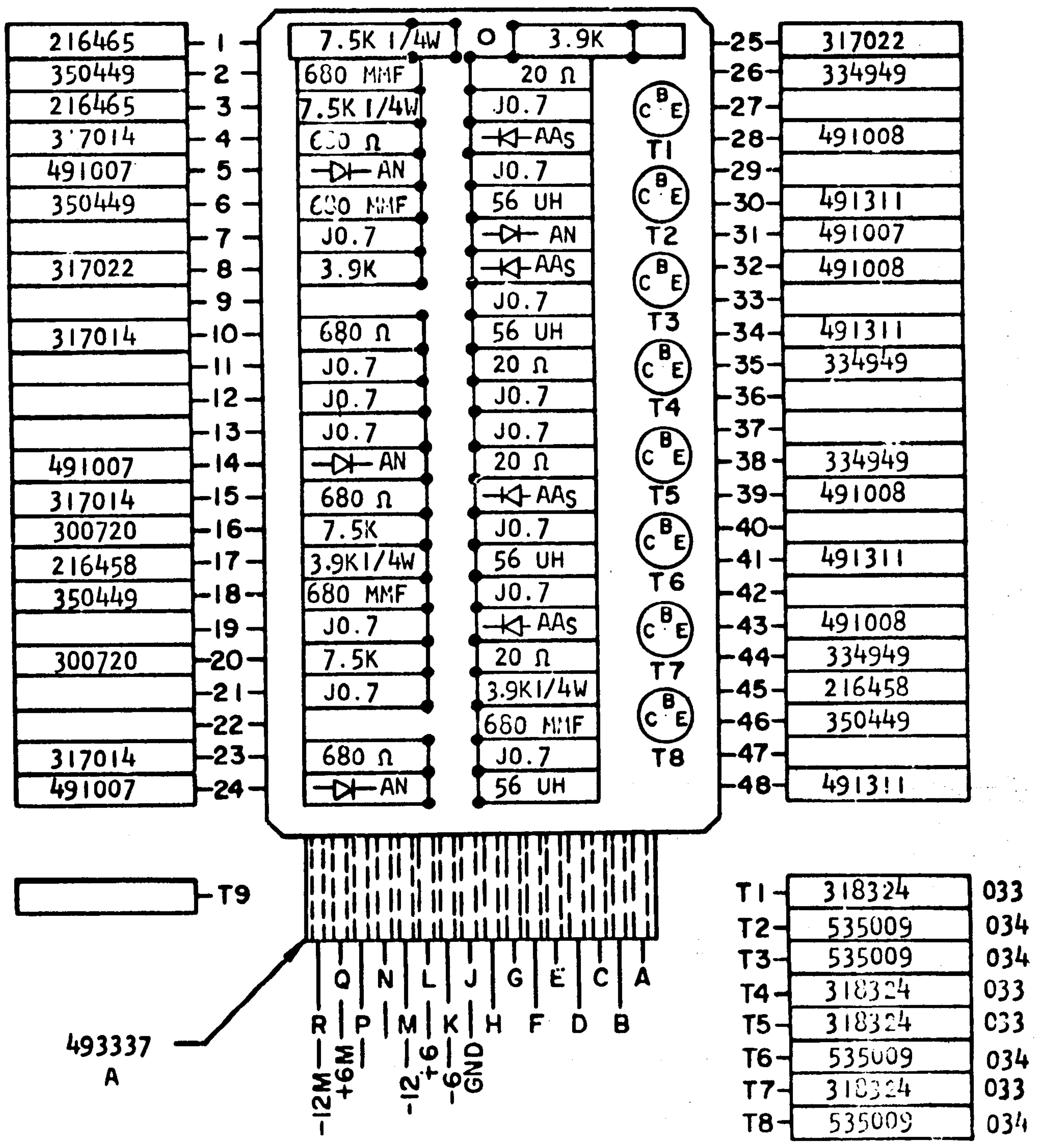
I CIRCUIT MUST COMFORM TO ENGINEERING SPECIFICATION 892143

II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296

IV ASSEMBLE WITH JEDEC TRANSISTOR



216465	1	25	317022
350449	2	26	334949
216465	3	27	
3'7014	4	28	491008
491007	5	29	
350449	6	30	491311
	7	31	491007
317022	8	32	491008
	9	33	
317014	10	34	491311
	11	35	334949
	12	36	
	13	37	
491007	14	38	334949
317014	15	39	491008
300720	16	40	
216458	17	41	491311
350449	18	42	
	19	43	491008
300720	20	44	334949
	21	45	216458
	22	46	350449
317014	23	47	
491007	24	48	491311

T1	318324	033
T2	535009	034
T3	535009	034
T4	318324	033
T5	318324	033
T6	535009	034
T7	318324	033
T8	535009	034

COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H. D. Harfo...	5-31-60

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- CTDL-PNP INVERTER LATCH		
DESIGN	6-21-60	TYPE	SMS 1401
DETAIL	6-21-60	SCALE	NONE
CHECK	6-21-60	DRAW	VE 6-14-60
APPRO	6-23-60	CHECK	6-16-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
6-23-60	109626	DWB			
10-26-60	109906	IWB			

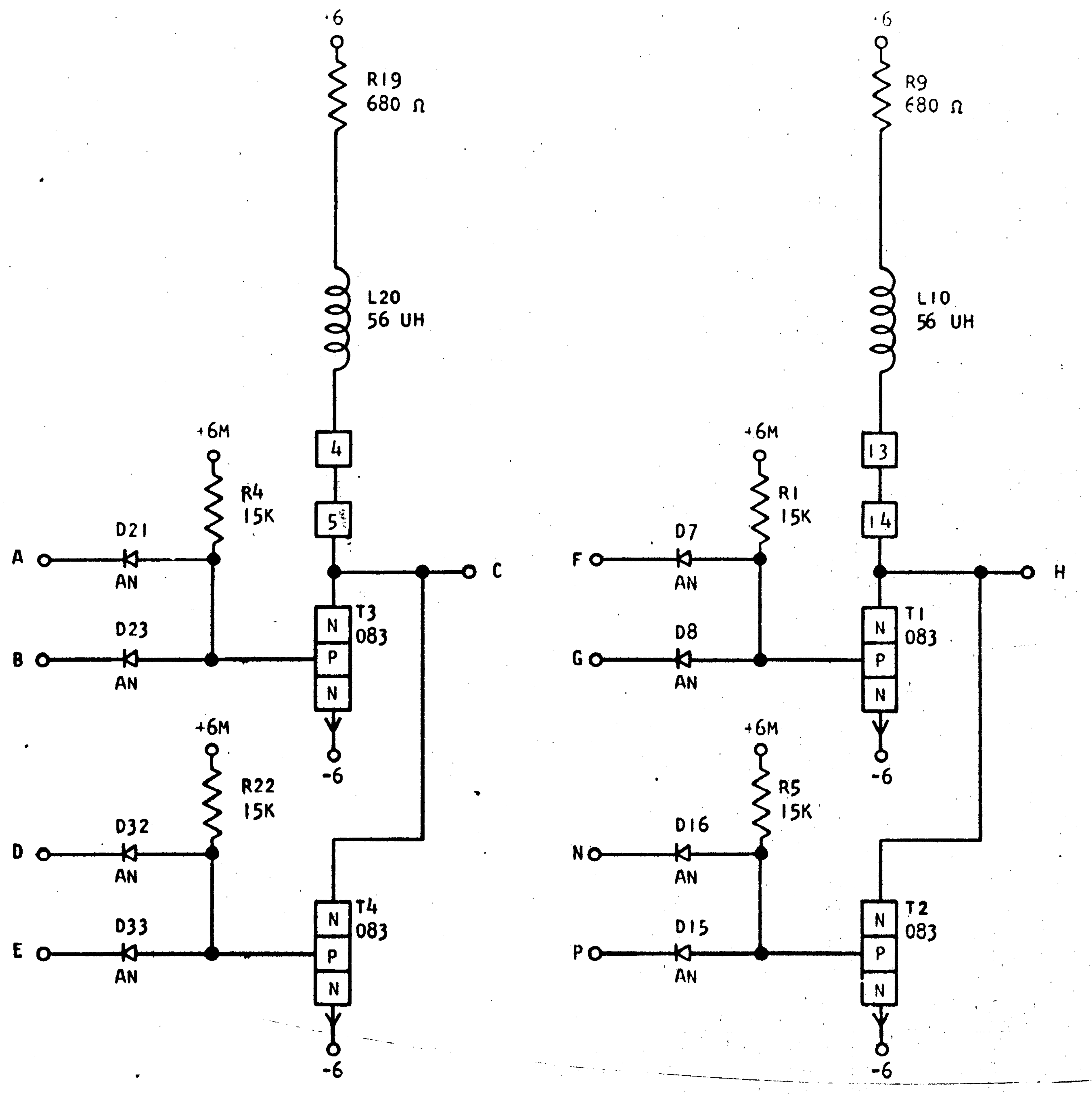
DEVELOPMENT NO.
X0768B

370143

370144	2J MX
STANDARDS CODE	2-7045

370144

CTDL NPN TWO WAY GATE W/ COLLECTOR LOAD



NOTES

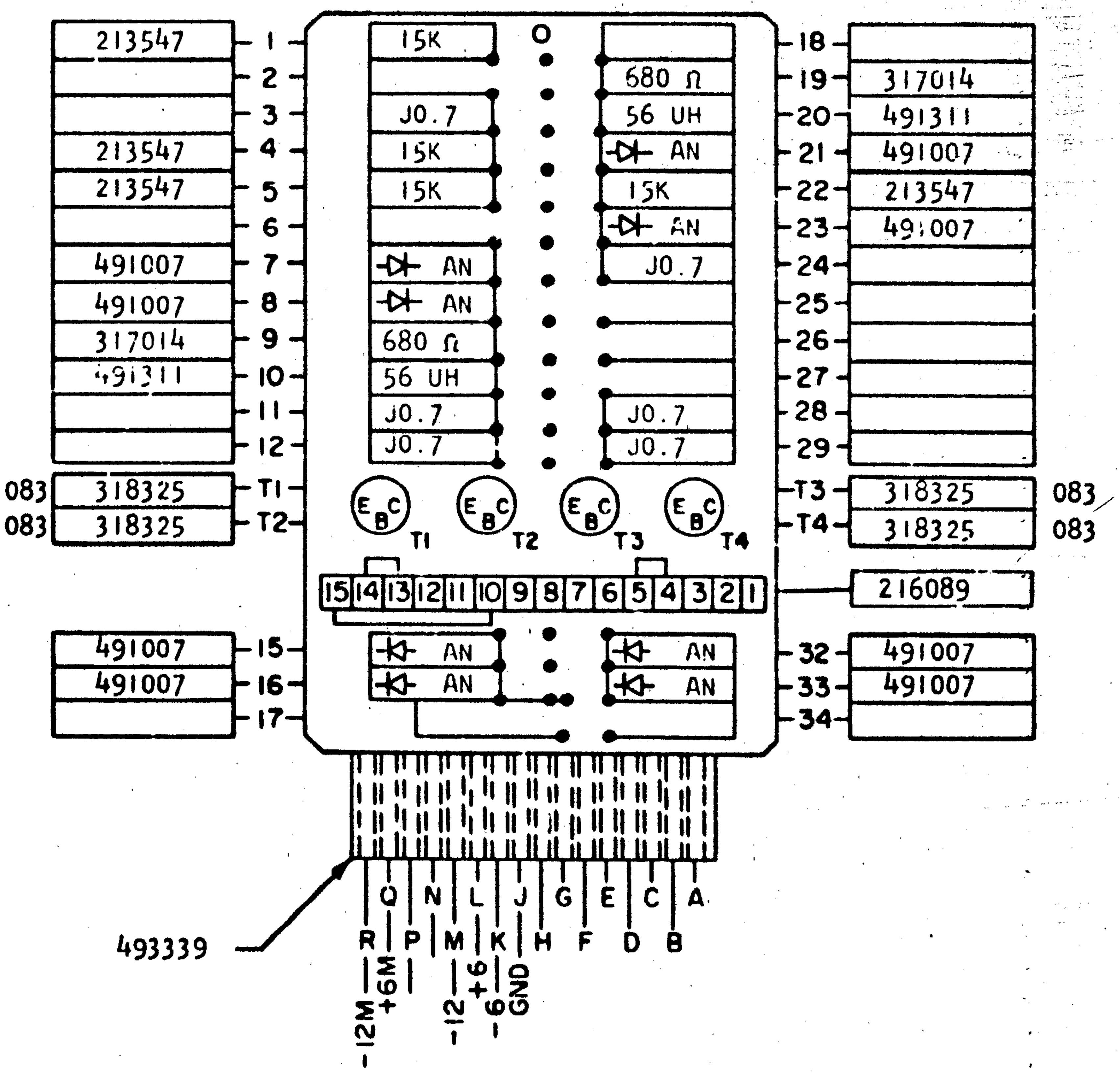
X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892144

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296

XIV -ASSEMBLE WITH JEDEC TRANSISTOR



B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H. D.	5-31-60

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR-CTDL NPN TWO WAY GATE W/ COLLECTOR LOAD				
DESIGN	CB	6/15/60	TYPE	SMS 1401	
DETAIL	CB	6/15/60	SCALE	NONE	
CHECK	CG	6/15/60	DRAW	VE	6-10-60
APPRO	BE	6-15-60	CHECK	CLW	6-10-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
6-16-60	109601	DWB			
10-26-60	109906	IWB			

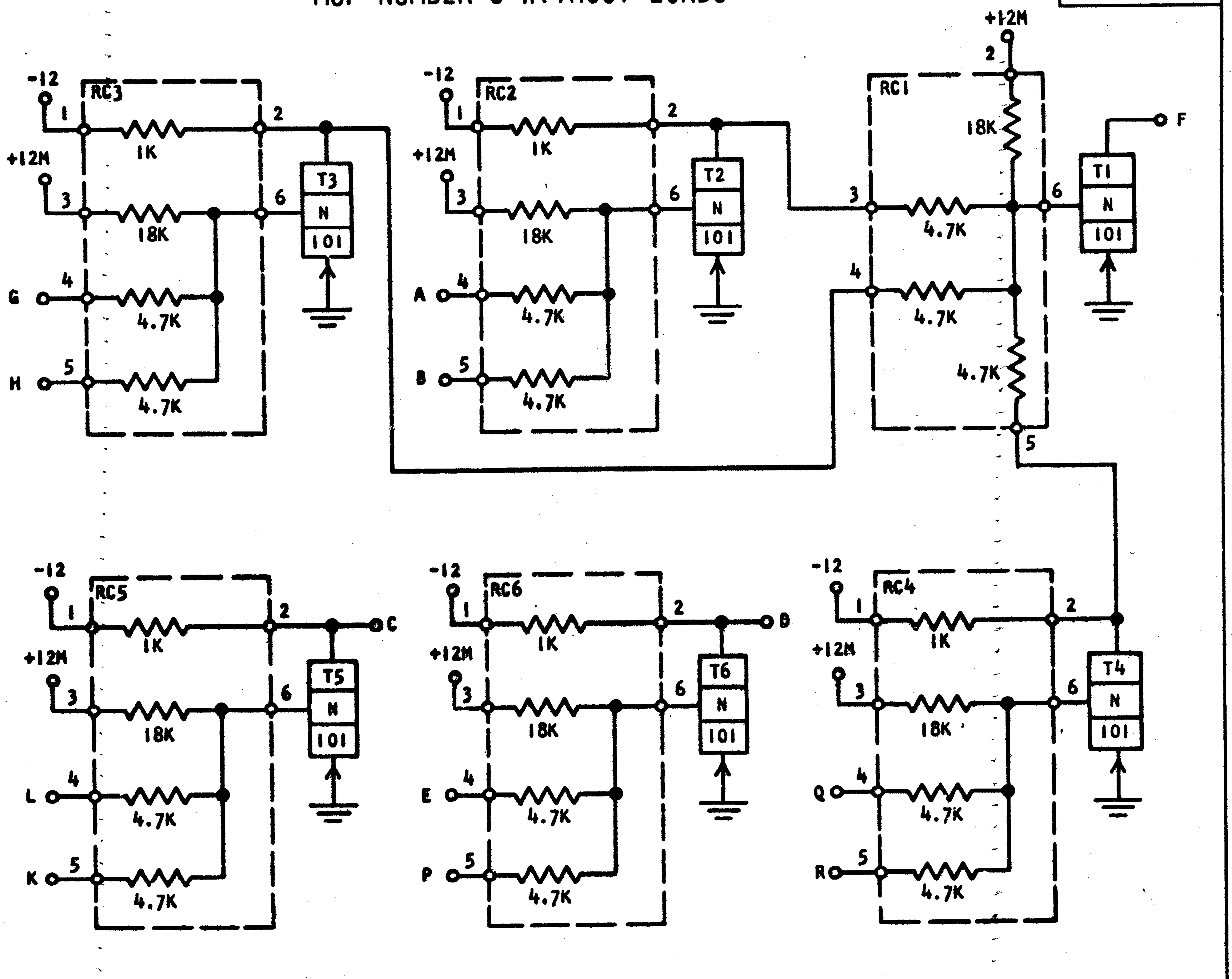
DEVELOPMENT NO: X0767A

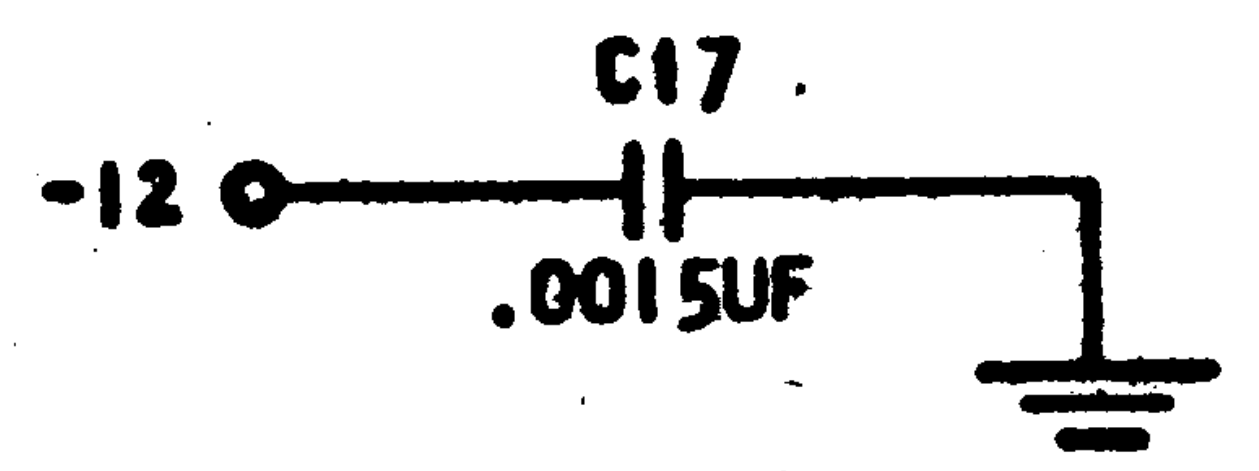
370144

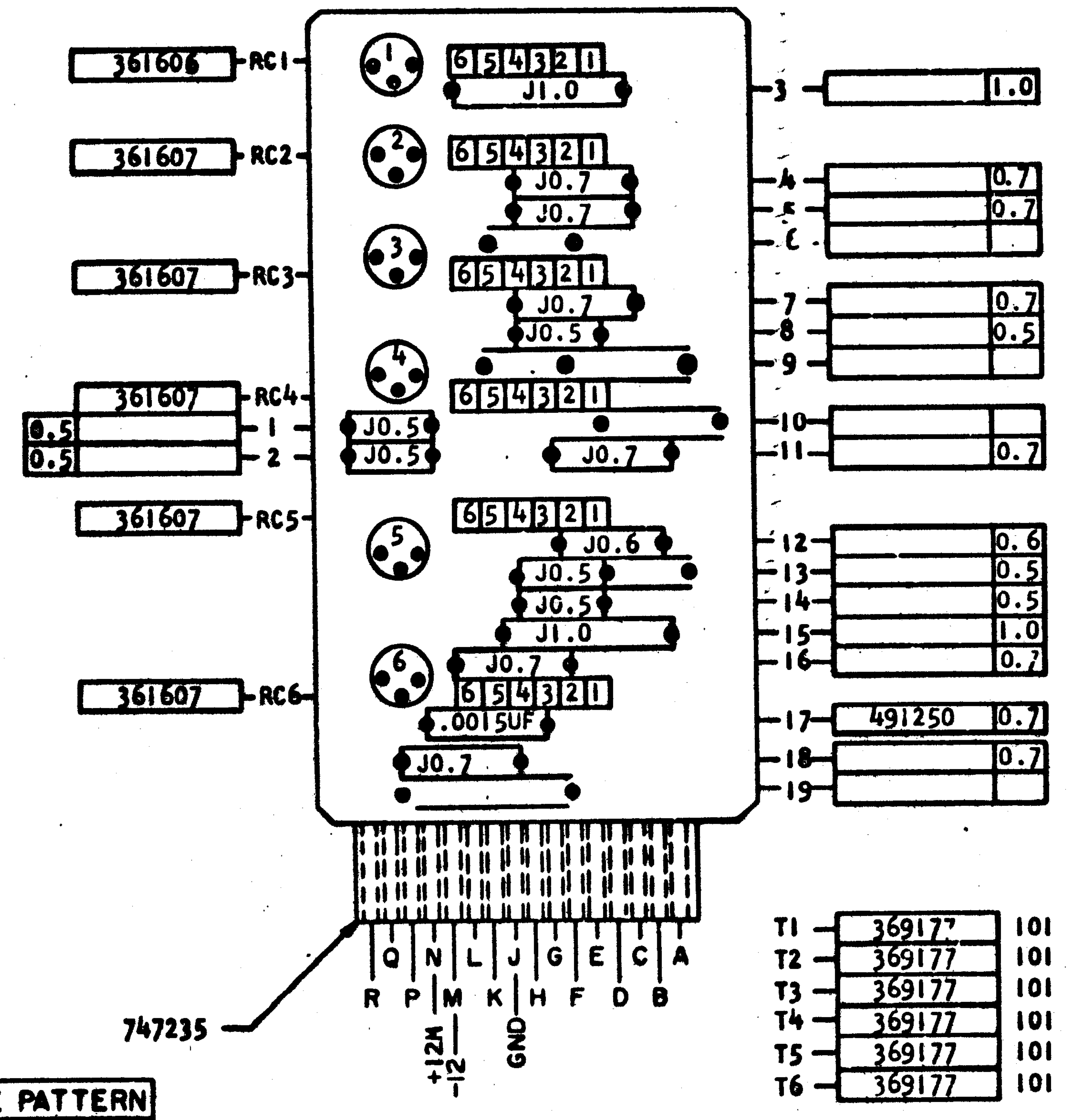
370200
D E U -
STANDARDS CODE
2-7045

MUP NUMBER 6 WITHOUT LOADS

370200







T1	369177	101
T2	369177	101
T3	369177	101
T4	369177	101
T5	369177	101
T6	369177	101

COMPONENT SIDE

NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892203
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII "J" IN JUMPER BLOCK DENOTES BARE WIRE JUMPER 491296
- XIII POSITIONS T1 THRU T6 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING.

B

DPD CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
HDH (GS)	7-8-60

HOLE PATTERN
490373

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- MUP NUMBER 6 WITHOUT LOADS				
DESIGN			MODEL	SMS	
DETAIL	CB	7-12-60	SCALE	NONE	
CHECK	REC	7-7-60	DRAW	LIG	5-8-63
APPRO	BES	7-12-60	CHECK	RED	5-9-63

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
SEE INDEX CARD					
5-5-61	111814	NOTE XVI			
6-21-62	113940	NOTE XVI			
7-12-63	116193	MDL			

DEVELOPMENT NO.
X0689

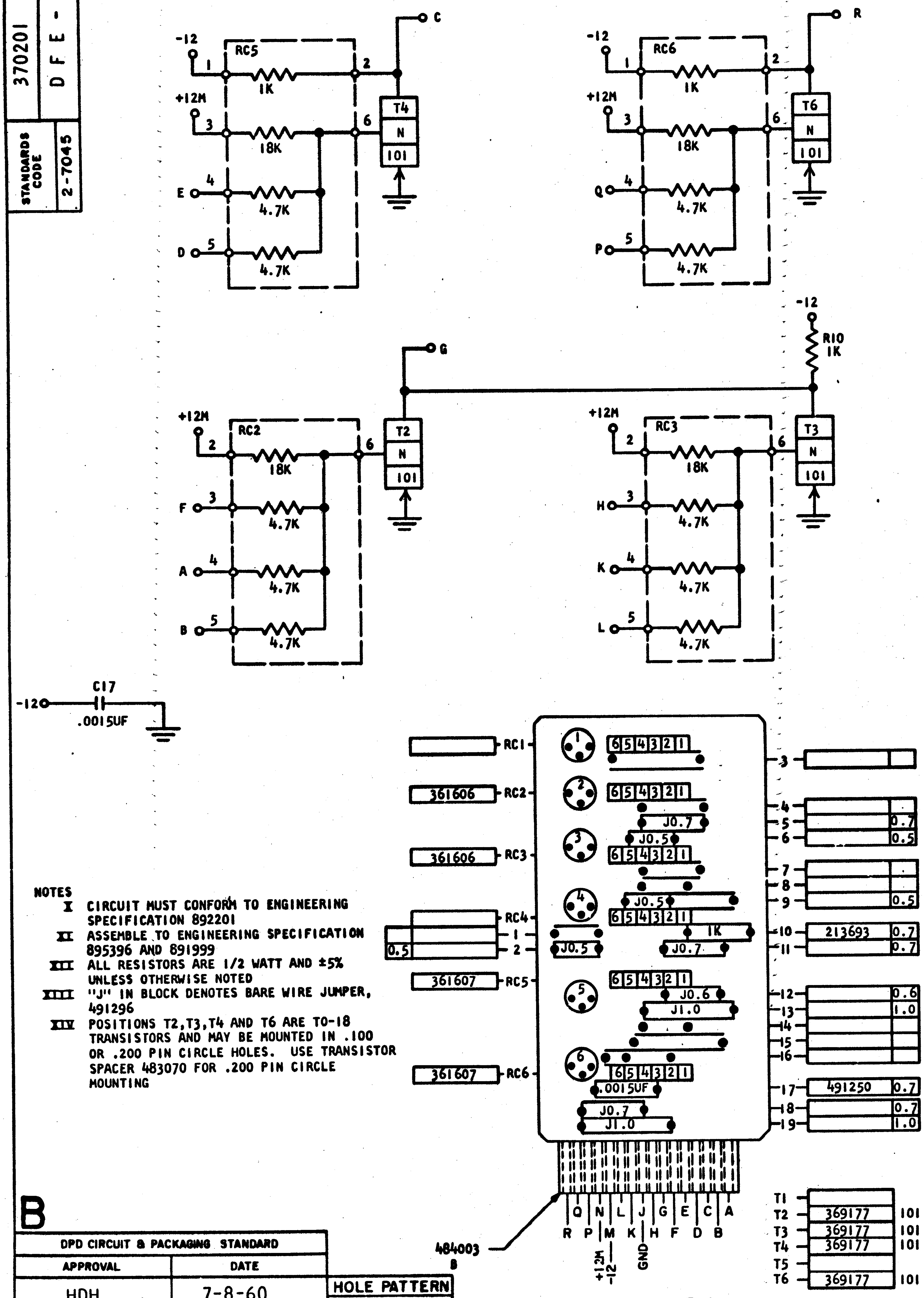
CIRCUIT FAMILY
SDTRL

370200

370201	DFE-
STANDARDS CODE	2-7045

MUP NUMBER 16

370201



NOTES

- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892201
- II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- XIV POSITIONS T2,T3,T4 AND T6 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING

B

DPD CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
HDH (GS)	7-8-60

HOLE PATTERN
490373

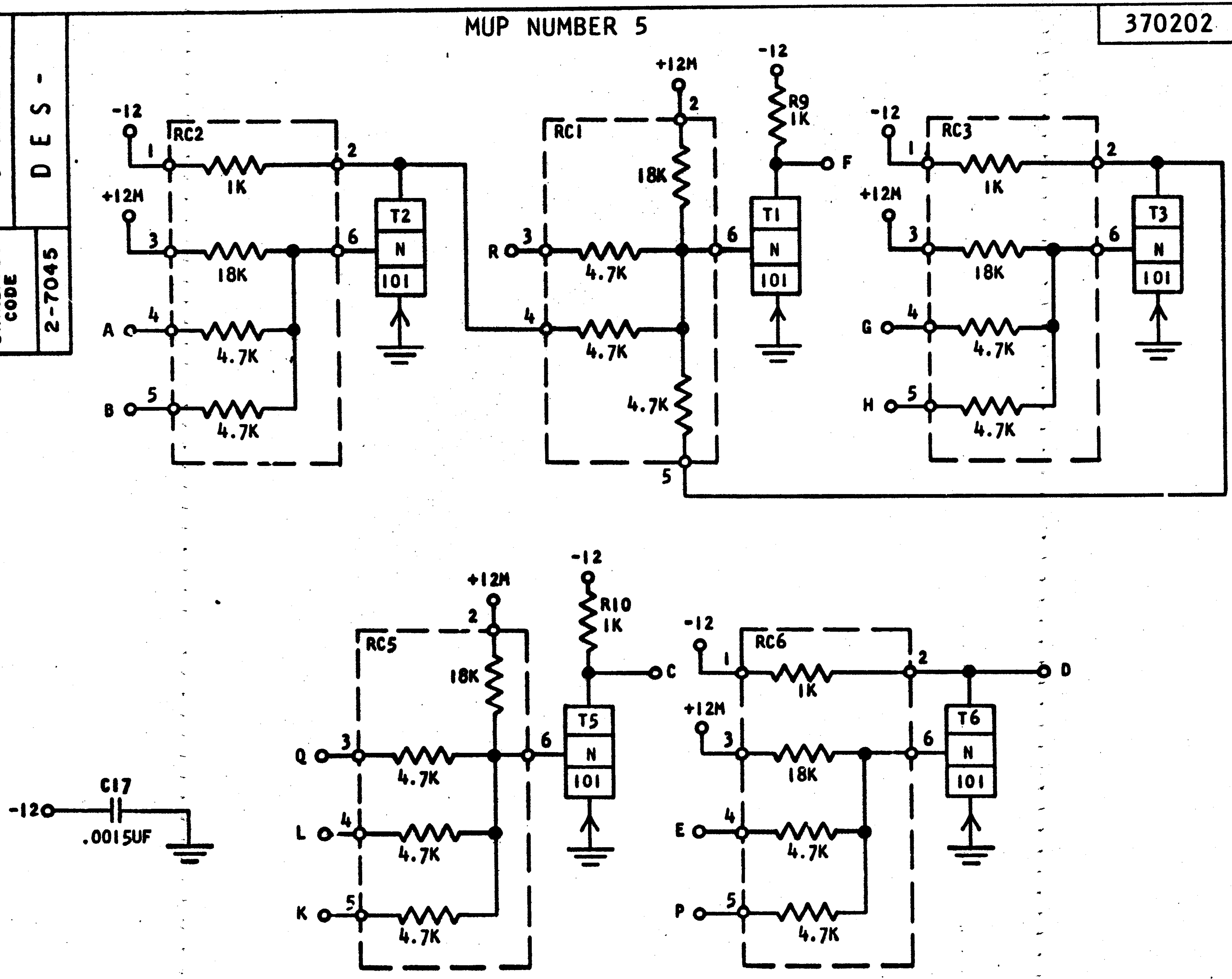
INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME	CARD ASM TSTR- MUP NUMBER 16			SEE INDEX CARD						X0716
DESIGN		MODEL	SMS	5-3-61	111805	NOTE XVI				
DETAIL	CSZ 7-14-60	SCALE	NONE	5-11-62	113943	NOTE XVI				
CHECK	REC 7-7-60	DRAW	LIG 5-7-63	7-12-63	116193	MDL				CIRCUIT FAMILY
APPRO	BES 7-14-60	CHECK	RRD 5-9-63							SDTRL

370201

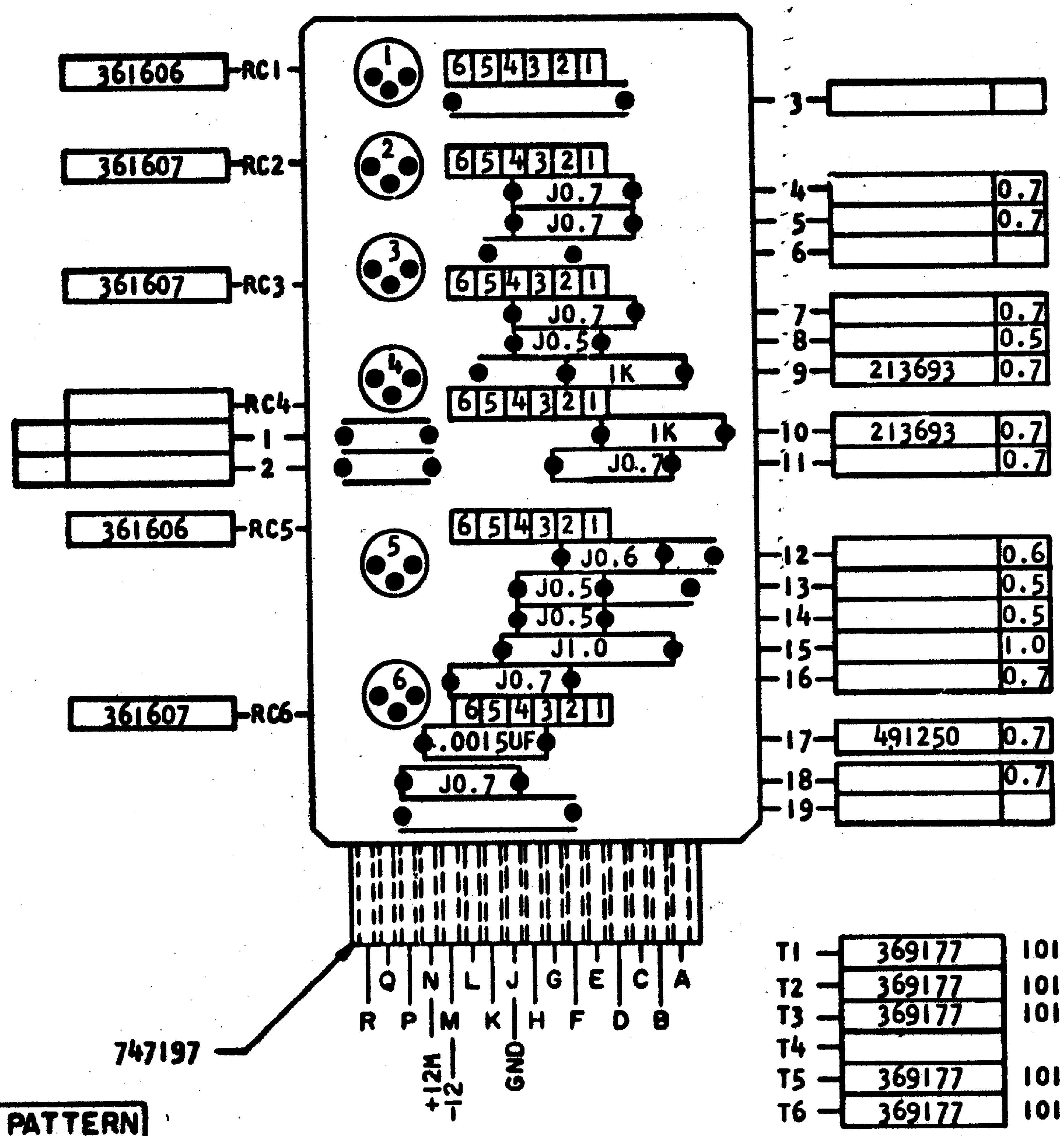
370202	D E S -
STANDARDS CODE	2-7045

MUP NUMBER 5

370202



NOTES
- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892202
- II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- XIV POSITIONS T1, T2, T3, T5, T6 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING



COMPONENT SIDE

B

DPD CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
HDH (GS)	7-8-60

HOLE PATTERN
490373

INTERNATIONAL BUSINESS MACHINES CORP.				
NAME	CARD ASM TSTR- MUP			
	NUMBER 5			
DESIGN			MODEL	SMS
DETAIL	CB	7-12-60	SCALE	NONE
CHECK	REC	7-7-60	DRAW	LIG 5-7-63
APPRO	BES	7-12-60	CHECK	RLJ 5-9-63

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
SEE INDEX CARD					
5-3-61	111805	NOTE XVI			
6-21-62	113940	NOTE XVI			
7-12-63	116193	MDL			

DEVELOPMENT NO.
X0734
CIRCUIT FAMILY
SDTRL

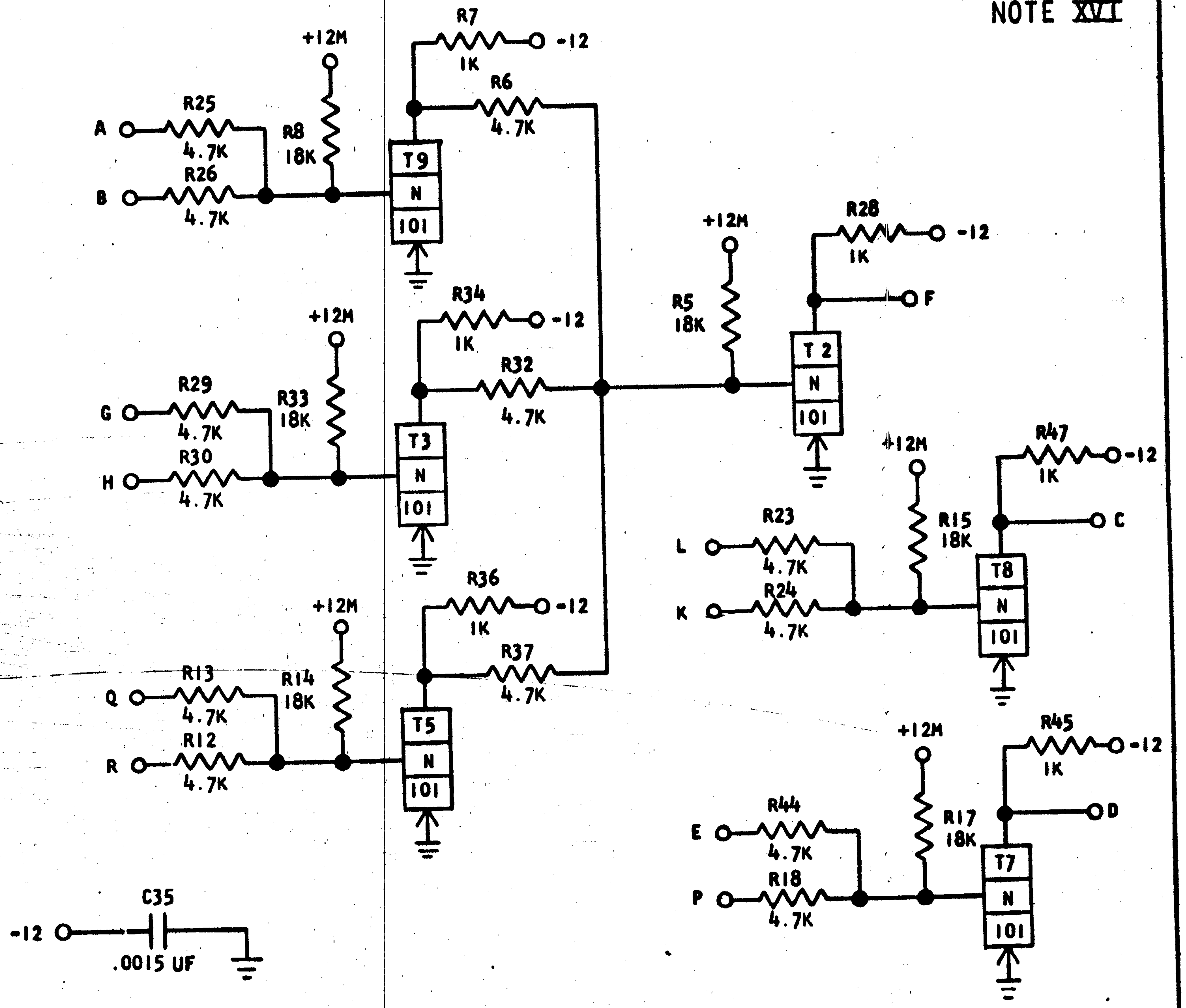
370202

370203

RESTRICTED
NOTE XVI

370203	DET-
STANDARDS CODE	2-7045

SDTRL MUP NUMBER 6



NOTES

I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892203

II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

III ALL RESISTORS ARE 1/4 WATT AND ±5% UNLESS OTHERWISE NOTED

IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296

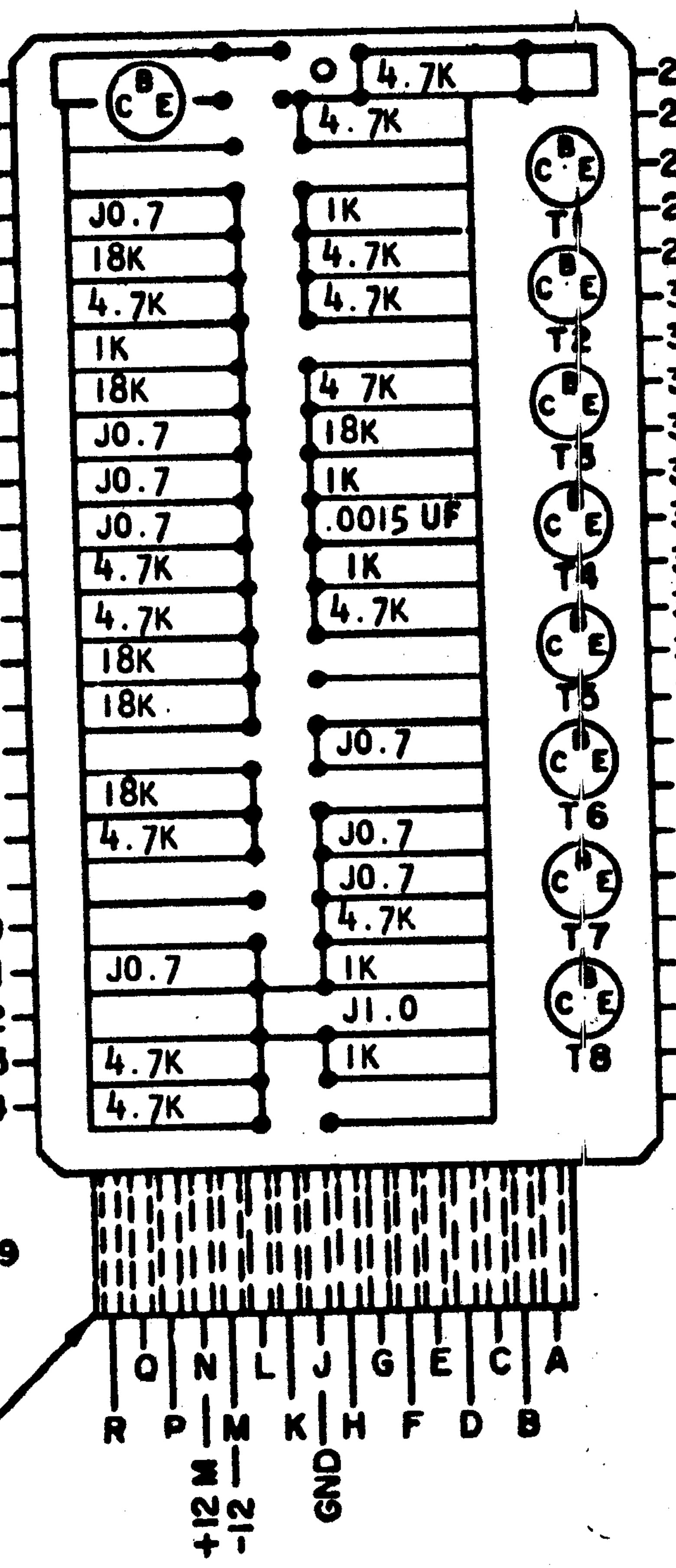
XIV

XV

* XVI TECHNICAL LABORATORY EVALUATION INCOMPLETE. ADDITIONAL USAGE TO BE AVOIDED. THIS PART SUBJECT TO WITHDRAWAL

XVII POSITIONS T2,T3,T5,T7,T8,T9 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. SEE REFERENCE DRAWING 493803. USE TRANSISTOR SPACER 483070 AS REQUIRED.

1	
2	
3	
4	
5	216474
6	216460
7	216445
8	216474
9	
10	
11	
12	216460
13	216460
14	216474
15	216474
16	
17	216474
18	216460
19	
20	
21	
22	
23	216460
24	216460



25	216460
26	216460
27	
28	216445
29	216460
30	216460
31	
32	216460
33	216474
34	216445
35	491250
36	216445
37	216460
38	
39	
40	
41	
42	
43	
44	216460
45	216445
46	
47	216445
48	

*101 369177 T9

T1		
T2	369177	101*
T3	369177	101*
T4		
T5	369177	101*
T6		
T7	369177	101*
T8	369177	101*

484001
A

COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
	7-8-60

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- SDTRL MUP NUMBER 6				
DESIGN			TYPE	SMS	
DETAIL	[illegible]	7-12-[illegible]	SCALE	NONE	
CHECK	REC	7-7-60	DRAW	VE	6-30-60
APPRO	[illegible]	7-12-60	CHECK	[illegible]	7-6-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
7-13-60	109736	NOTE XVI			
10-24-60	110089	NOTE XVI			
3-1-61	111272	NOTE XVI			
5-3-61	111805	NOTE XVI			
6-21-62	113940	NOTE XVI			

DEVELOPMENT NO.
X0733

370203

RD

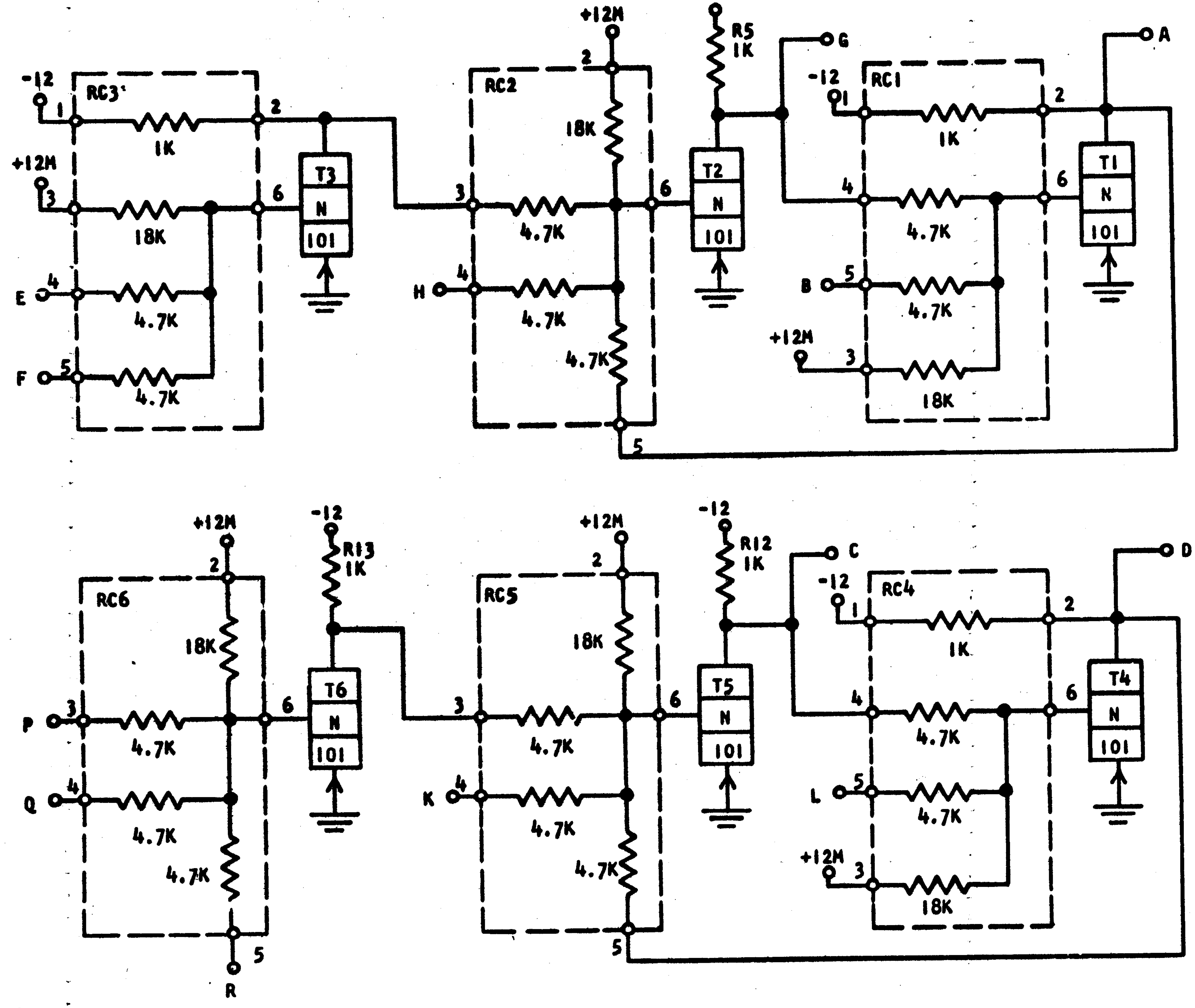
S

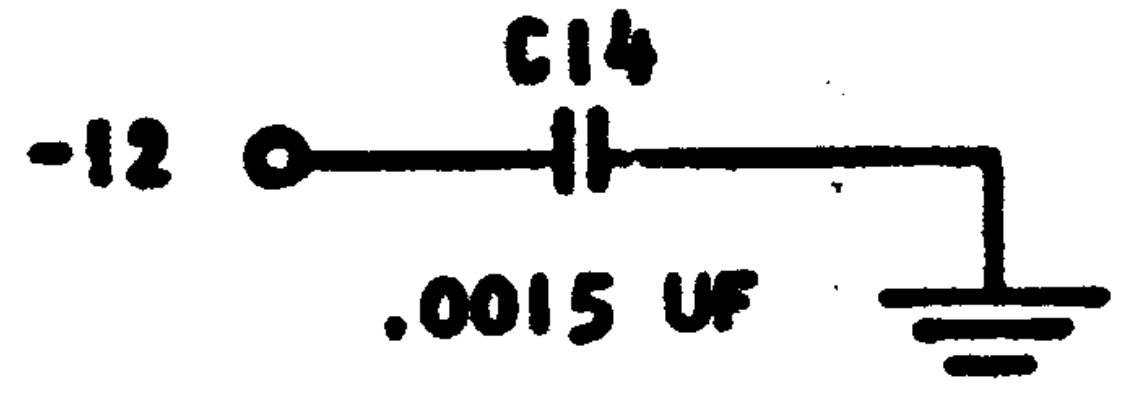
370204

MUP NUMBER 15

370204
D F D -

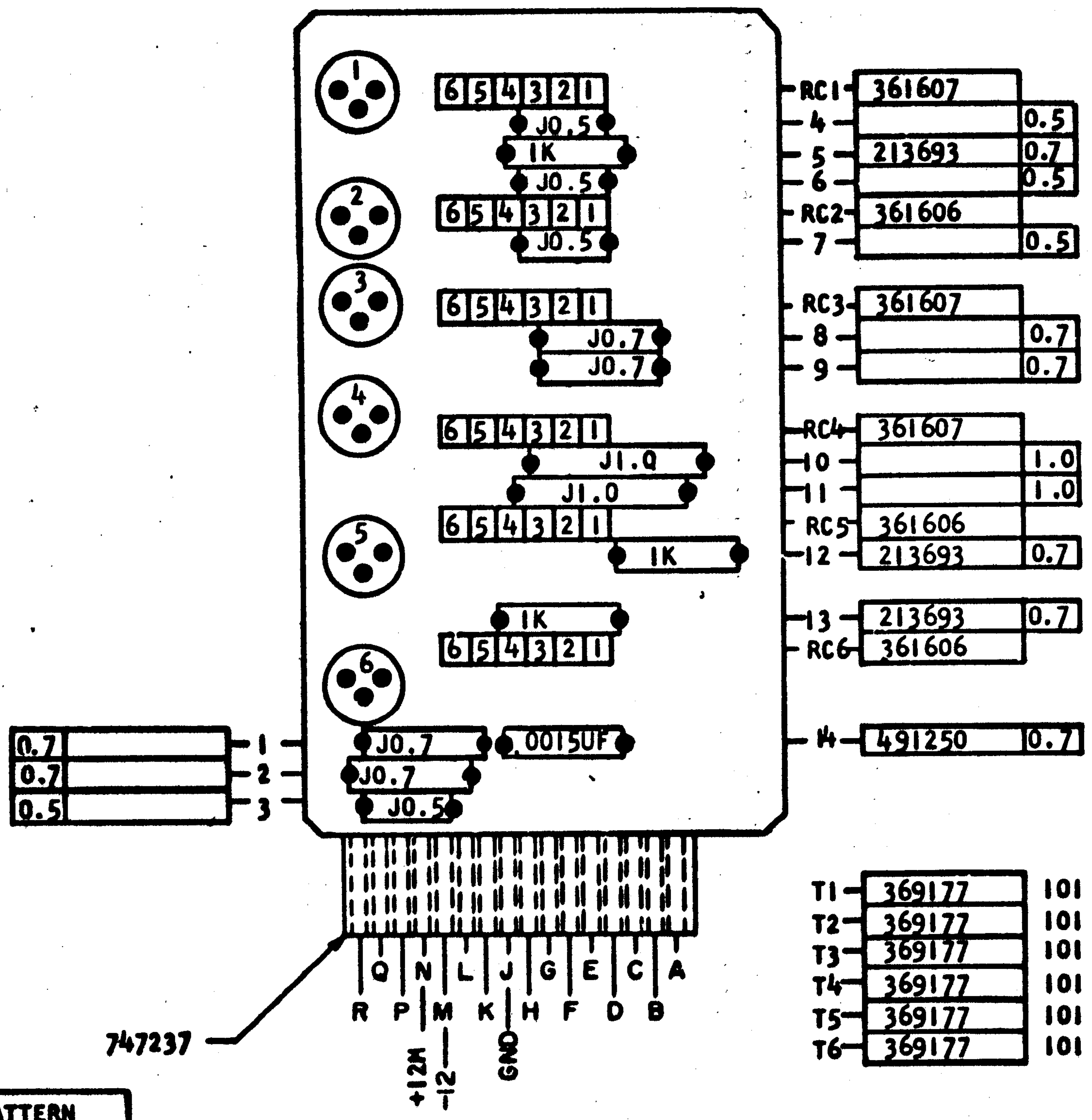
STANDARDS CODE 2-7045





NOTES

- **X** CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892204
- **XI** ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- **XII** ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- **XIII** "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- **XIV** POSITIONS T1 THRU T6 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING



COMPONENT SIDE

B

DPD CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
HDH (GS)	7-8-60

HOLE PATTERN
490374

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- MUP NUMBER 15			
DESIGN			MODEL	SMS
DETAIL	CB	7-12-60	SCALE	NONE
CHECK	REC	7-7-60	DRAW'	LIG 4-29-63
APPRO	BES	7-12-60	CHECK	R&8 5 2-63

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
SEE INDEX CARD					
5-3-61	111805	NOTE XVI			
6-21-62	113940	NOTE XVI			
7-12-63	116193	MDL			

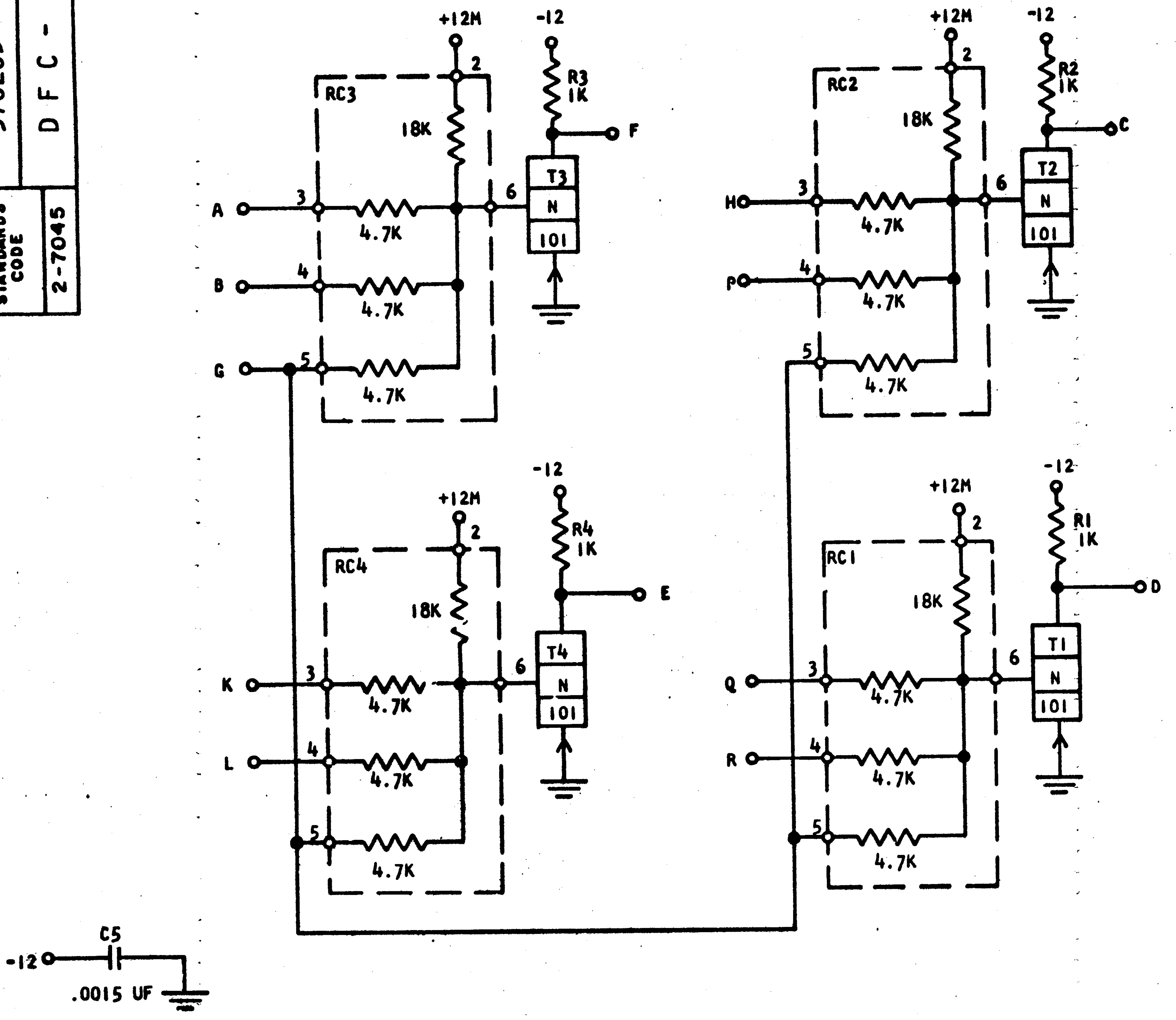
DEVELOPMENT NO.
X0717
CIRCUIT FAMILY
SDTRL

370204

370205	D F C -
STANDARDS CODE	2-7045

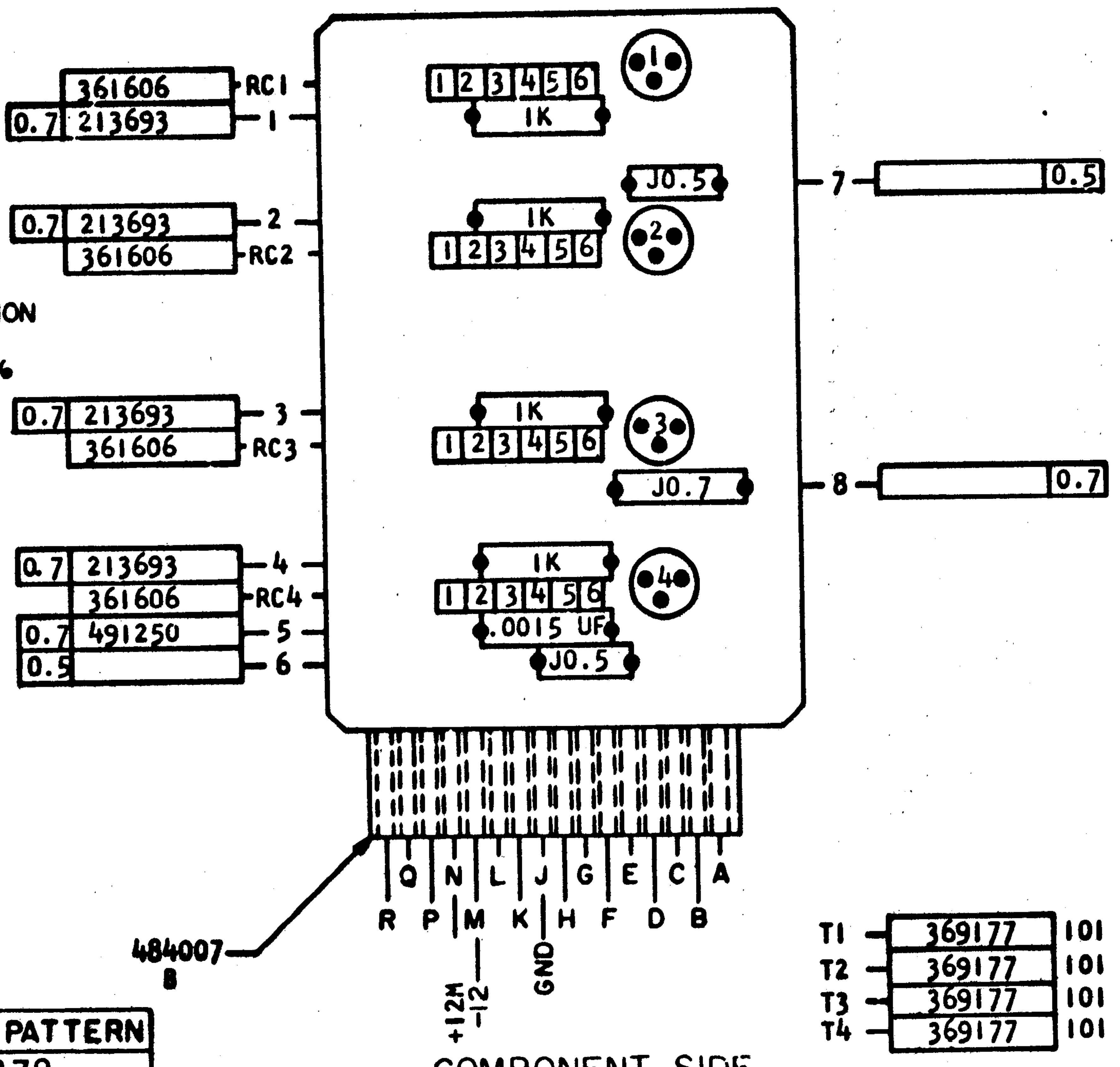
MUP NUMBER 14

370205



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892205
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- XIV POSITIONS T1 THRU T4 ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING.



COMPONENT SIDE

B

DPD CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
HDH (GS)	7-8-60

HOLE PATTERN
490378

INTERNATIONAL BUSINESS MACHINES CORP.				
NAME	CARD ASM TSTR - MUP NUMBER 14			
DESIGN			MODEL	SMS 1410
DETAIL	CB	7-13-60	SCALE	NONE
CHECK	REC	7-7-60	DRAW	LIG 5-22-63
APPRO	BES	7-13-60	CHECK	NJK 6-5-63

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
SEE INDEX CARD					
5-3-61	111803	NOTE XVI			
6-21-62	113940	NOTE XVI			
7-12-63	116194	MDL			

DEVELOPMENT NO.
X0718
CIRCUIT FAMILY
SDTRL

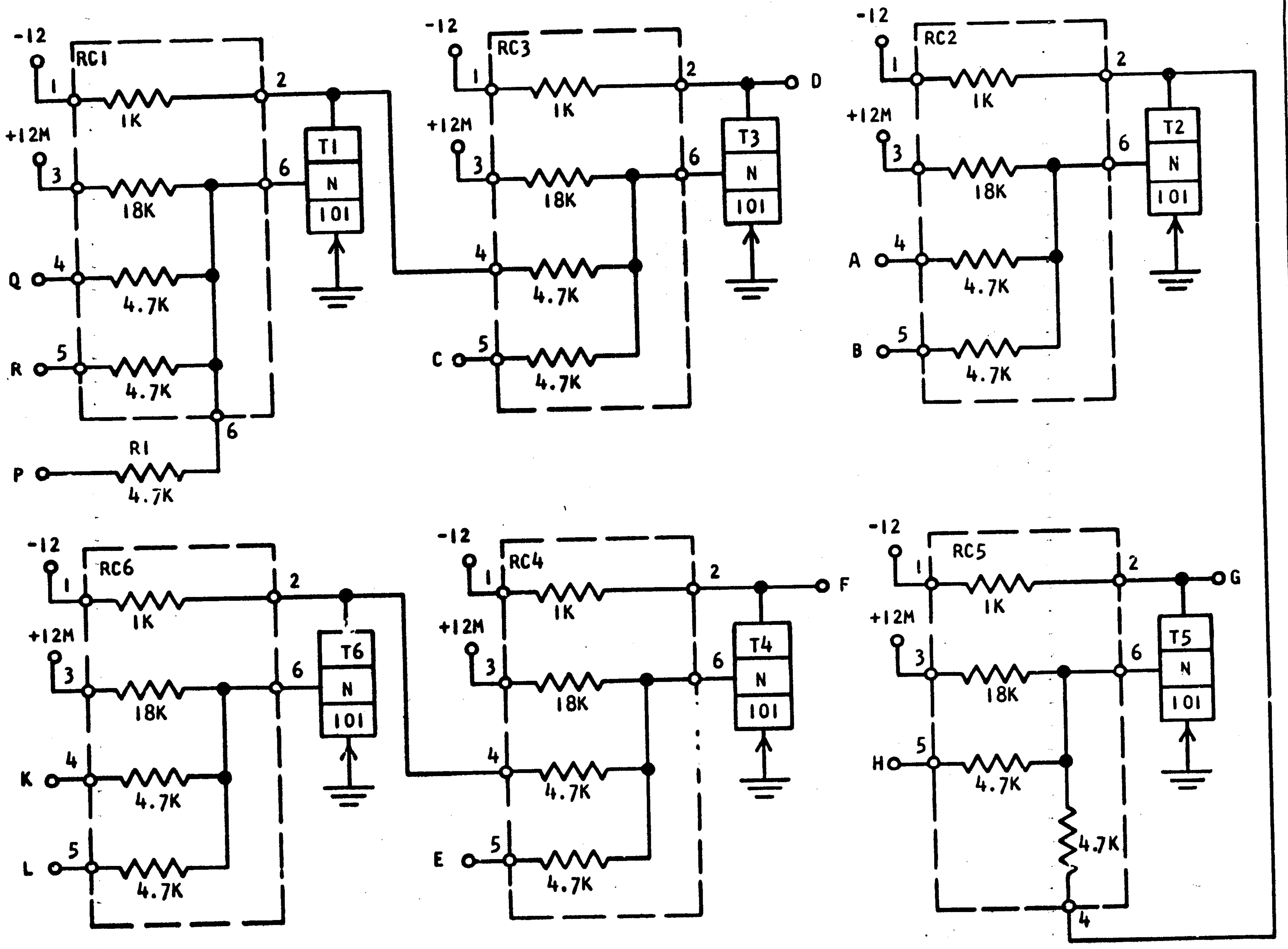
370205

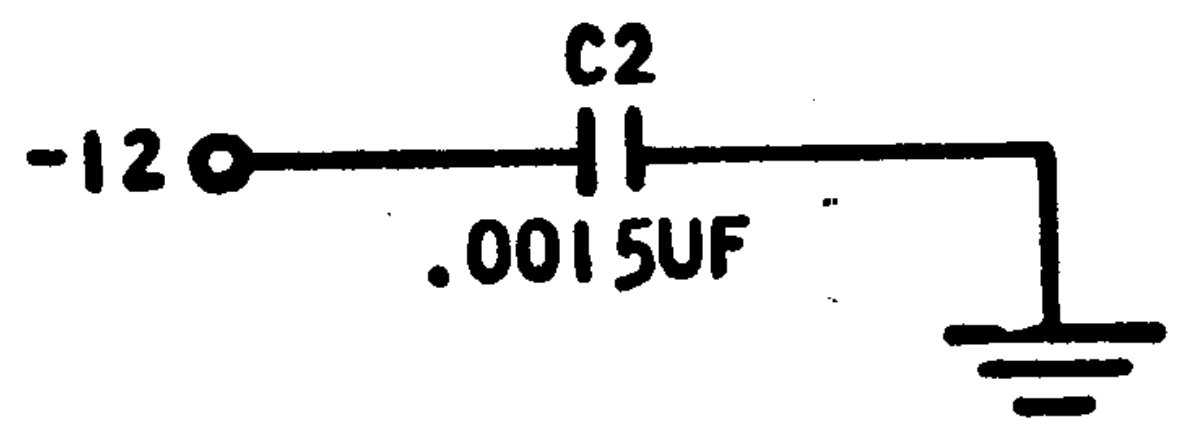
370206 DFB-

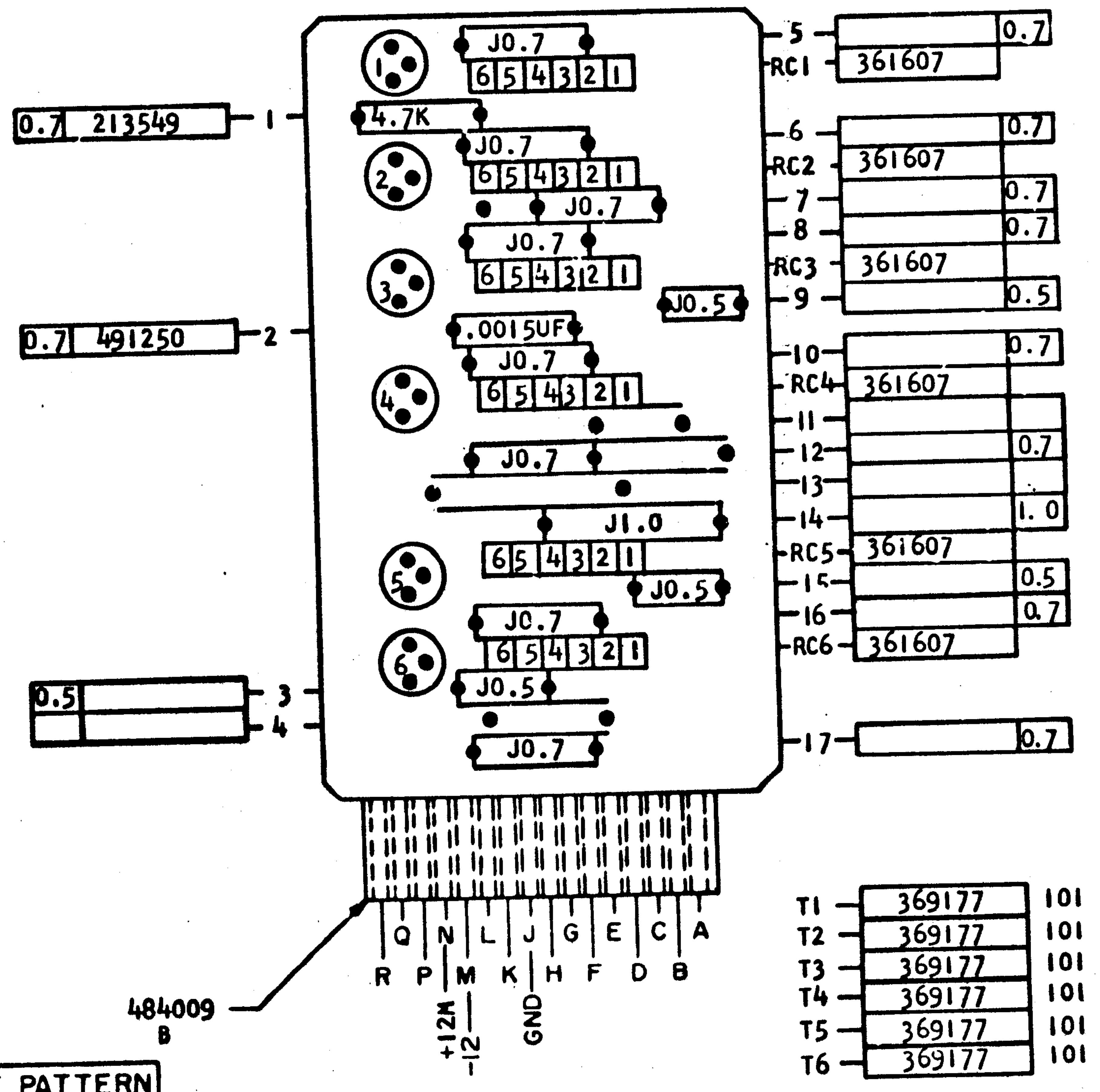
STANDARDS CODE	2-7045

MUP NUMBER 13

370206







COMPONENT SIDE

NOTES

I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892206

XI ASSEMBLE TO ENGINEERING SPECIFICATIONS 895396 AND 891999

XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296

XIV POSITIONS T1 THROUGH T6 ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING.

B

DPD CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
HDH (GS)	7-8-60

HOLE PATTERN
490375

INTERNATIONAL BUSINESS MACHINES CORP.				
NAME	CARD ASM TSTR- MUP NUMBER 13			
DESIGN			MODEL	SMS
DETAIL	CB	7-12-60	SCALE	NONE
CHECK	CB	7-12-60	DRAW	LIG 5-8-63
APPRO	BES	7-12-60	CHECK	[illegible] 5-8-63

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
SEE INDEX CARD					
5-3-60	111805	NOTE XVI			
6-21-62	113940	NOTE XVI			
7-12-63	116194	MDL			

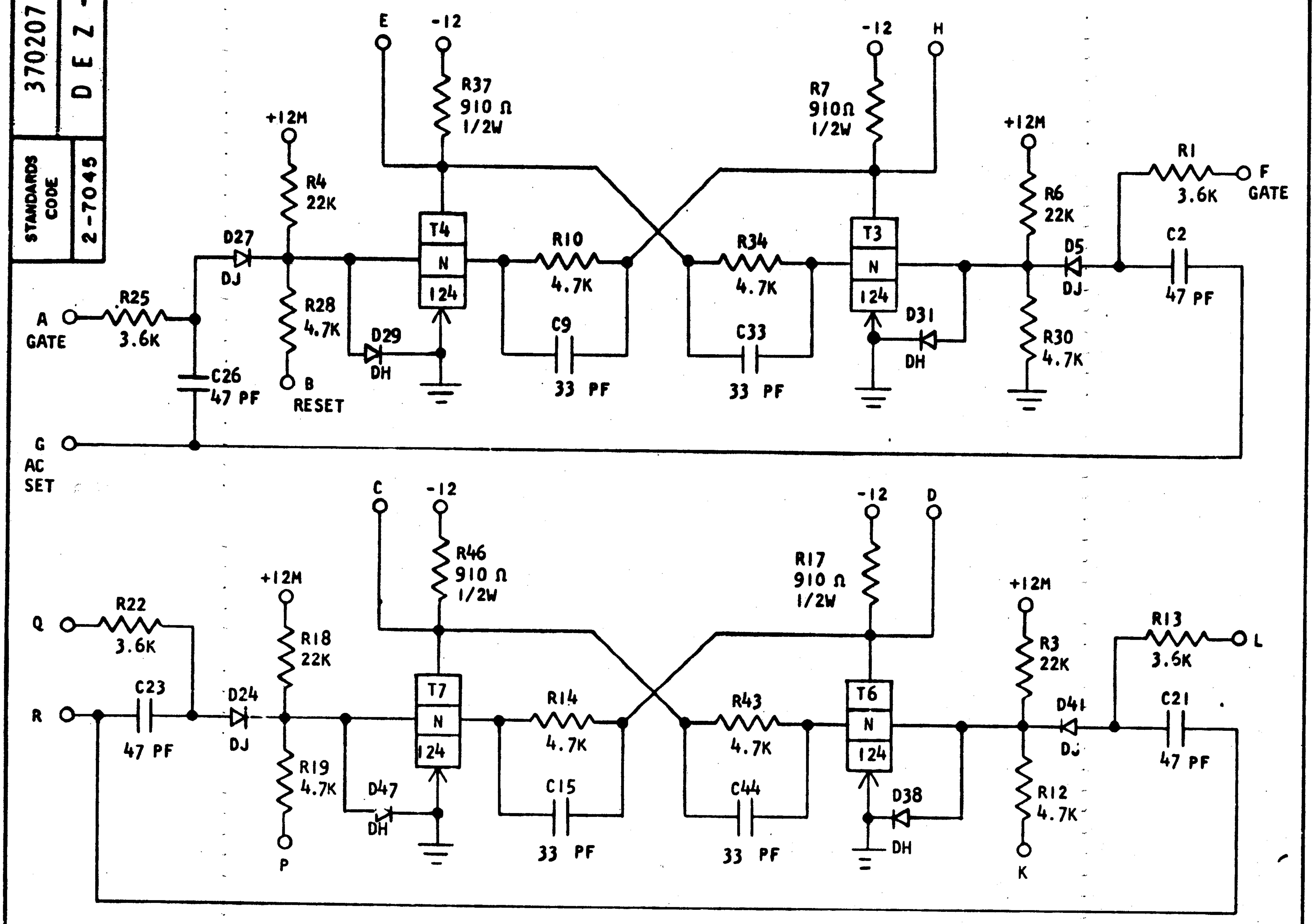
DEVELOPMENT NO.
X0719
CIRCUIT FAMILY
SDTRL

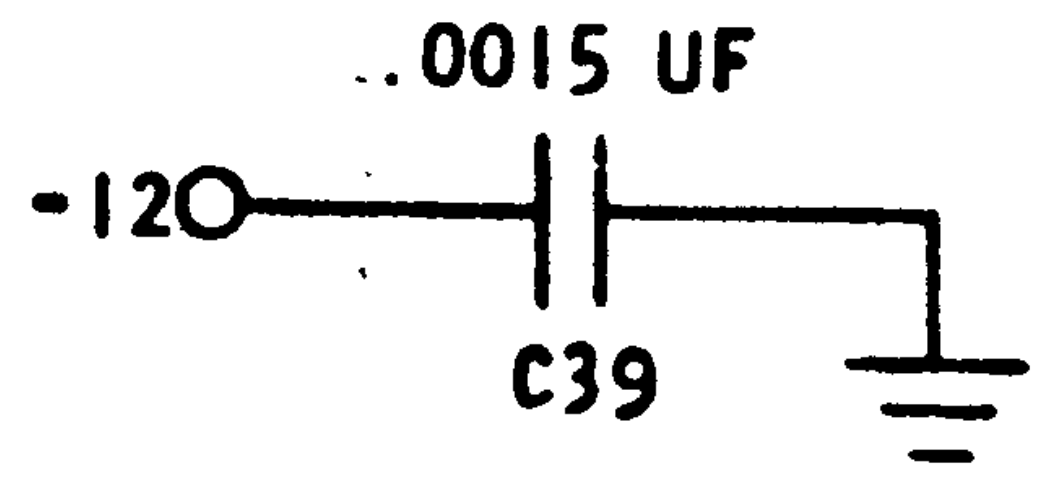
370206

370207 | DEZ-

STANDARDS CODE 2-7045

SDTRL MUP NUMBER II





NOTES

I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892207

II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

III ALL RESISTORS ARE 1/4 WATT AND ±5% UNLESS OTHERWISE NOTED

IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296

XIV

XV

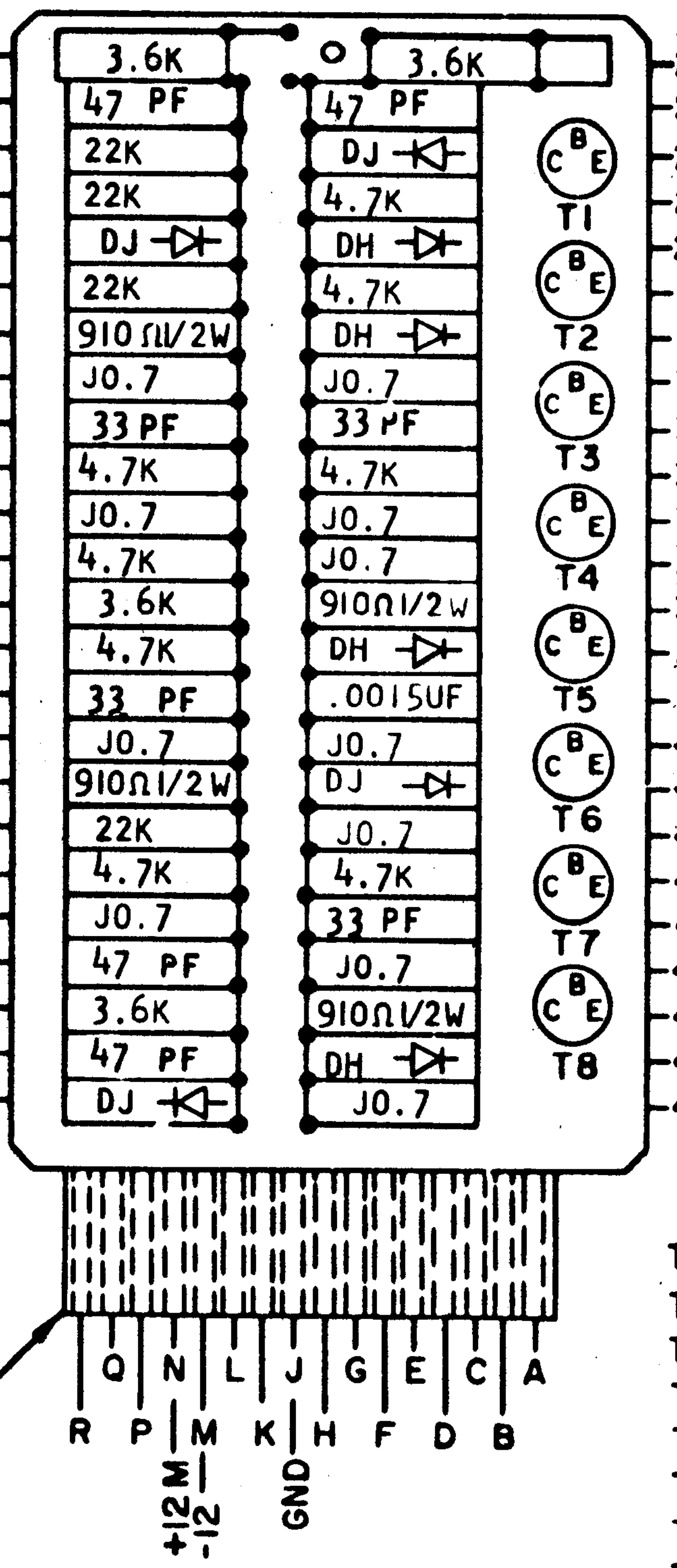
XVI

XVII POSITIONS T3,T4,T6,T7 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING

XVIII

XIX T3,T4,T6 AND T7 MUST BE TI TRANSISTORS

216457	1
350420	2
216476	3
216476	4
369218	5
216476	6
528486	7
	8
350416	9
216460	10
	11
216460	12
216457	13
216460	14
350416	15
	16
528486	17
216476	18
216460	19
	20
350420	21
216457	22
350420	23
369218	24



25	216457
26	350420
27	369218
28	216460
29	369217
30	216460
31	369217
32	
33	350416
34	216460
35	
36	
37	528486
38	369217
39	491250
40	
41	369218
42	
43	216460
44	350416
45	
46	528486
47	369217
48	

T9

484011
B

T1		
T2		
T3	369656	124
T4	369656	124
T5		
T6	369656	124
T7	369656	124
T8		

B

CIRCUIT AND PACKAGING STANDARD

APPROVAL	DATE
W E K...	- -

HOLE PATTERN 493457

COMPONENT SIDE

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- SDTRL MUP NUMBER II		
DESIGN		TYPE	SMS
DETAIL	CB 7-13-60	SCALE	NONE
CHECK	CB 7-13-60	DRAW	VE 7-5-60
APPRO	BES 7-13 60	CHECK	7-6-60

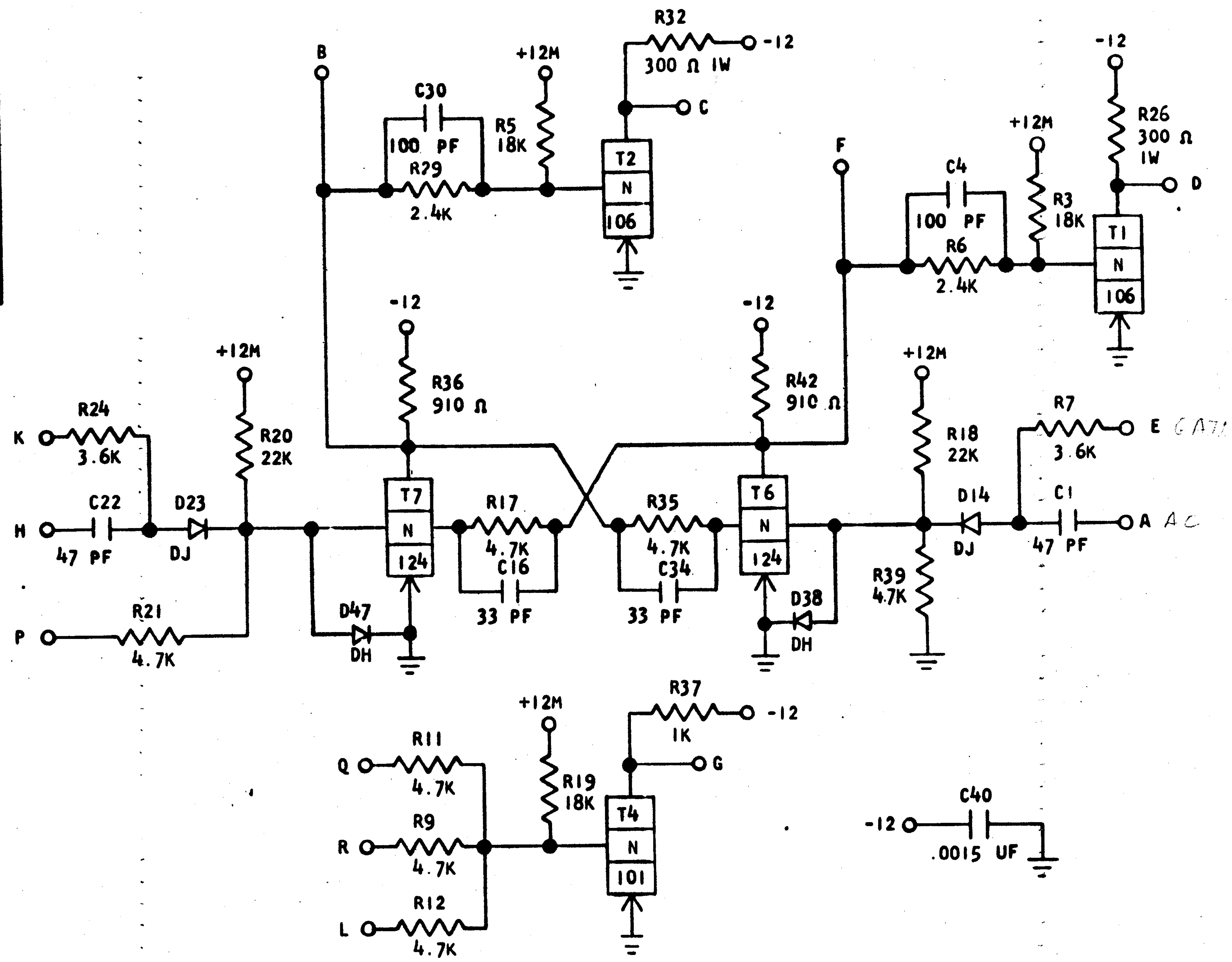
DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
7-14-60	109737	NOTE XVI	1-17-63	114407	MDL
10-24-60	110089	NOTE XVI	4-18-63	D116096	MDL
3-1-61	111272	NOTE XVI	7-9-63	115981	MDL
5-3-61	111805	NOTE XVI	8-26-63	115990	MDL
6-21-62	113940	NOTE XVI			

DEVELOPMENT NO.
X0721

370207

370208	DEY -
STANDARDS CODE	2-7045

SDTRL MUP NUMBER 10



NOTES

I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892208

II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

III ALL RESISTORS ARE 1/4 WATT AND ±5% UNLESS OTHERWISE NOTED

IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296

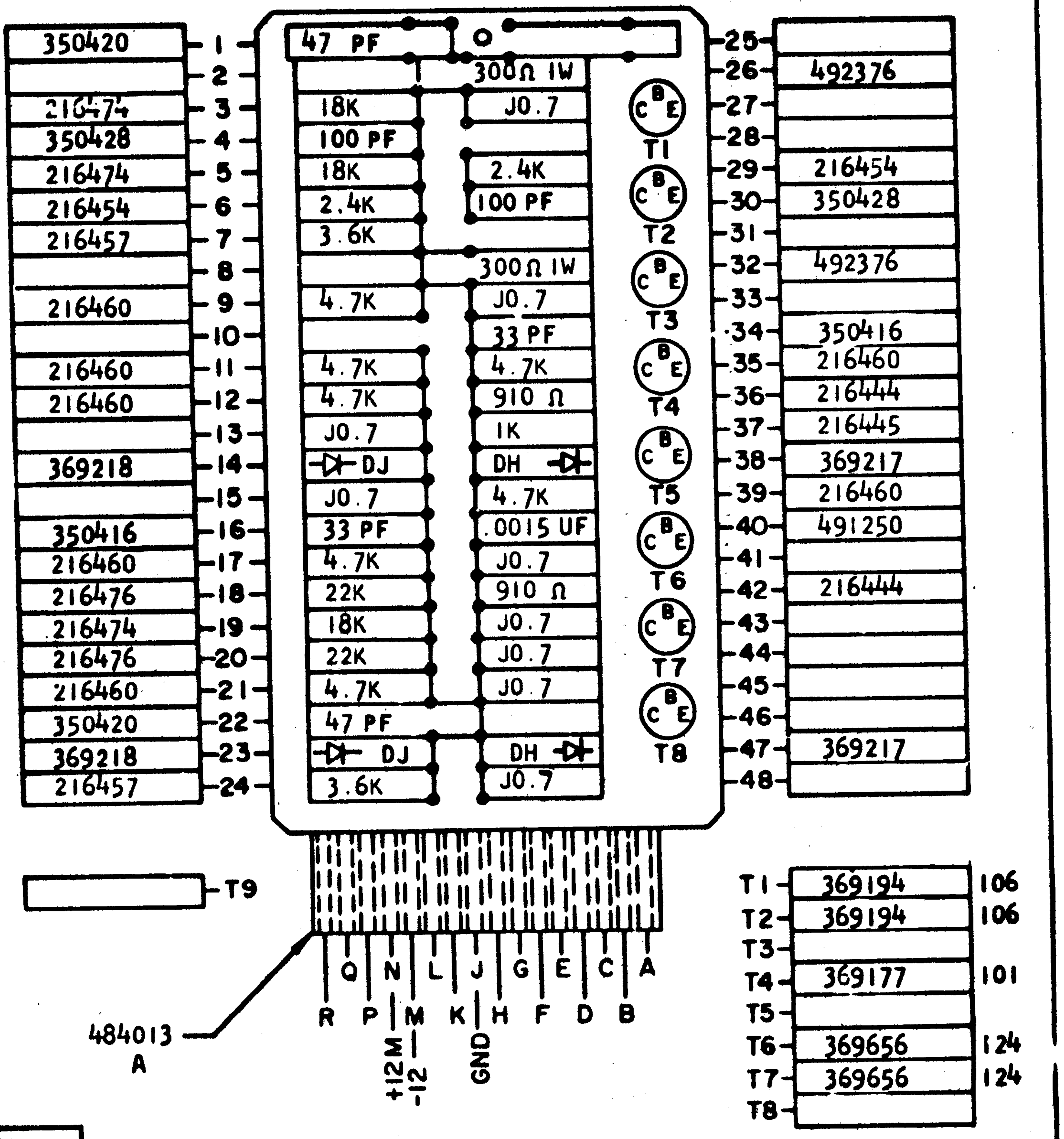
XIV

XV

XVI

XVII POSITIONS T1,T2,T4,T6,T7 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING

XVIII POSITIONS T6 AND T7 MUST BE TI TRANSISTORS.



350420	1
	2
216474	3
350428	4
216474	5
216454	6
216457	7
	8
216460	9
	10
216460	11
216460	12
	13
369218	14
	15
350416	16
216460	17
216476	18
216474	19
216476	20
216460	21
350420	22
369218	23
216457	24

25	
26	492376
27	
28	
29	216454
30	350428
31	
32	492376
33	
34	350416
35	216460
36	216444
37	216445
38	369217
39	216460
40	491250
41	
42	216444
43	
44	
45	
46	
47	369217
48	

T1	369194	106
T2	369194	106
T3		
T4	369177	101
T5		
T6	369656	124
T7	369656	124
T8		

COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H D Hu	7-5-6

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- SDTRL MUP NUMBER 10		
DESIGN		TYPE	SMS
DETAIL	CE 7-…	SCALE	NONE
CHECK	CE 7-…	DRAW	VE 7-1-60
APPRO	B… 7-14-60	CHECK	7-7-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
7-14-60	109744	NOTE XVI	6-21-62	113940	NOTE XVI
10-5-60	110091	NOTE XVI	1-17-63	114407	MDL
3-1-61	111272	NOTE XVI	7-9-63	115981	MDL
5-16-61	112003	NOTE XVI	8-26-63	115990	MDL
6-27-61	112156	NOTE XVI			

DEVELOPMENT NO.
X0722A

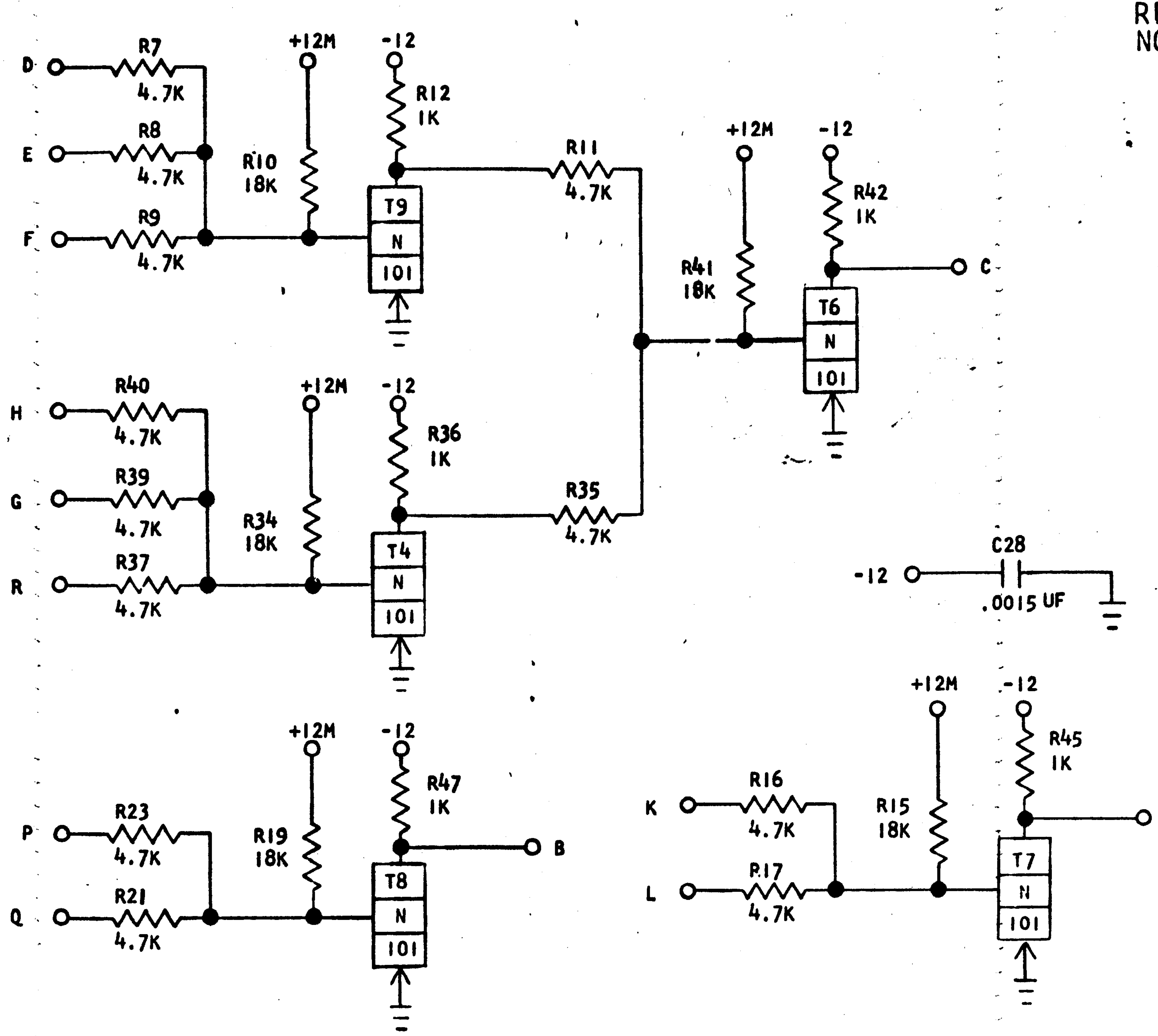
370208

RESTRICTED
NOTE XVI

370209
DFG-

STANDARDS CODE
2-7045

SDTRL MUP NUMBER 18



NOTES

I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892209

II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

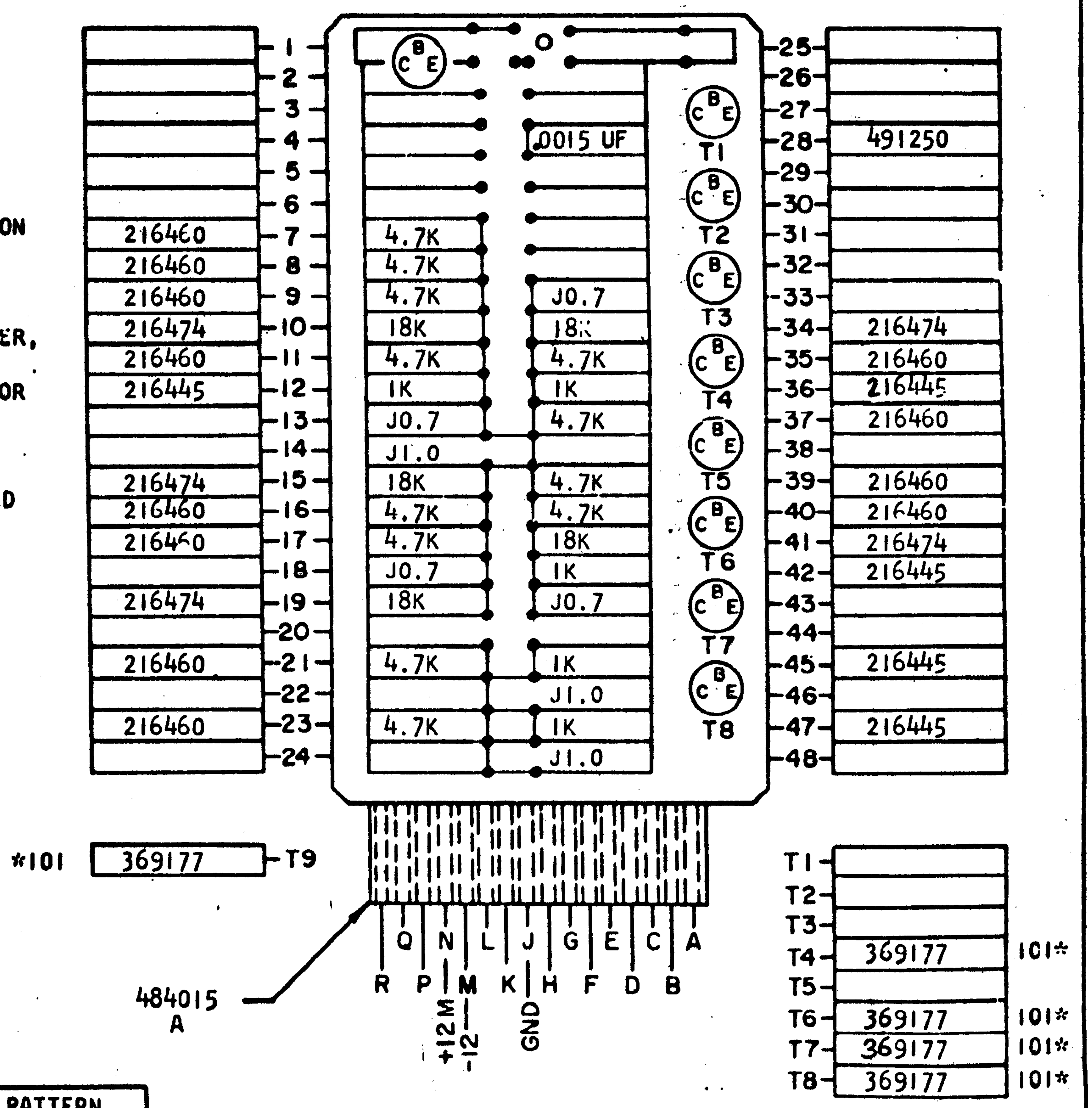
III ALL RESISTORS ARE 1/4 WATT AND ±5% UNLESS OTHERWISE NOTED

IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296

XIV ASSEMBLE WITH JEDEC TRANSISTOR

XV POSITIONS T4,T6,T7,T8,T9 ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. SEE REFERENCE DRAWING 493813. USE TRANSISTOR SPACER 483070 AS REQUIRED

* XVI TECHNICAL LABORATORY EVALUATION INCOMPLETE. ADDITIONAL USAGE TO BE AVOIDED. THIS PART SUBJECT TO WITHDRAWAL.



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H. D. Ho...	7-8-60

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- SDTRL MUP NUMBER 18			
DESIGN	CB		TYPE	SMS
DETAIL		7-13-60	SCALE	NONE
CHECK		7-13-60	DRAW	VE 7-1-60
APPRO		7-1?	CHECK	7-7-60

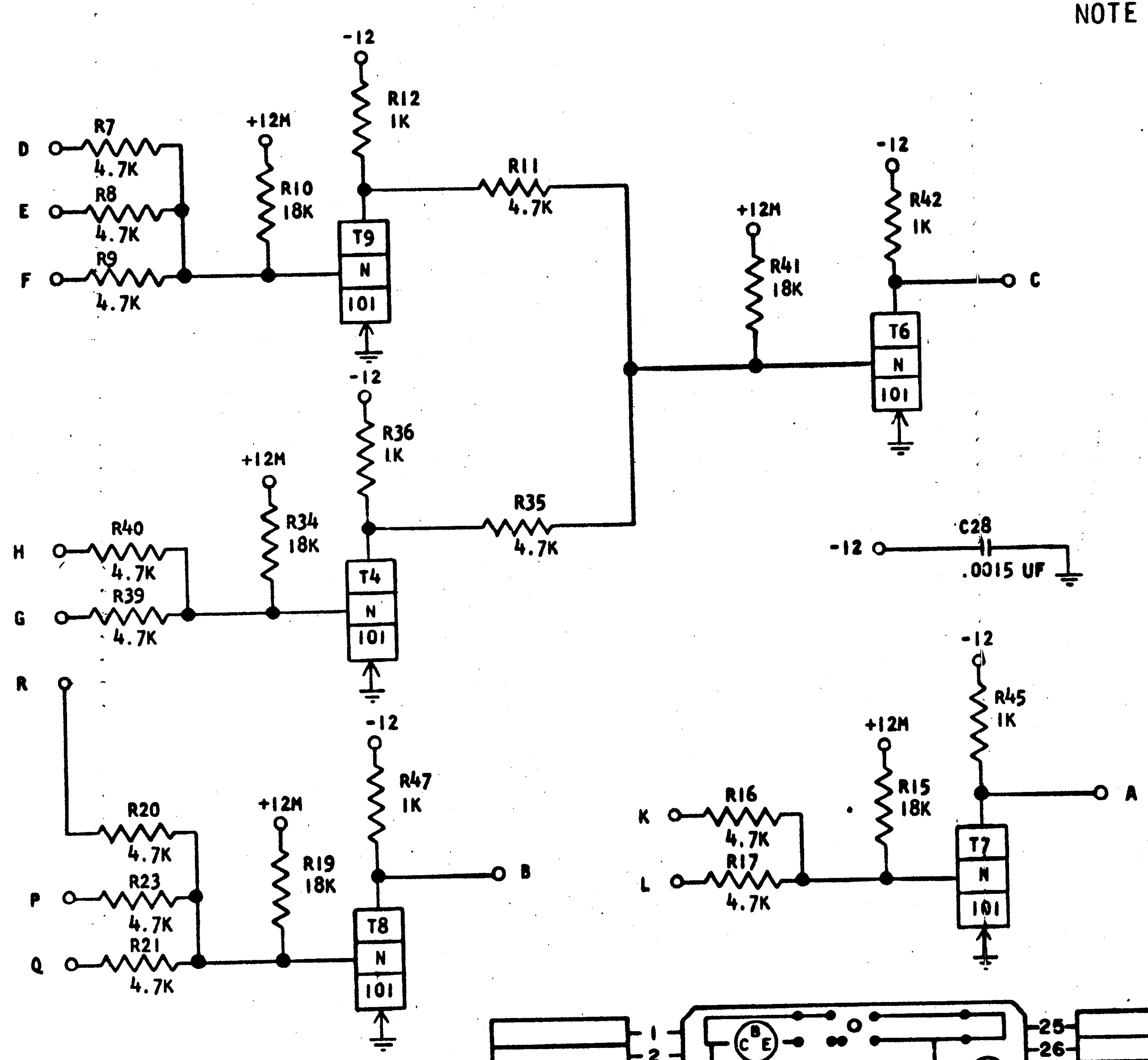
DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
7-14-60	109737	NOTE XVI			
10-24-60	110089	NOTE XVI			
3-1-61	111272	NOTE XVI			
5-2-61	111806	NOTE XVI			
6-19-62	113945	NOTE XVI			

DEVELOPMENT NO.
X0723

RESTRICTED
NOTE XVI

STANDARDS CODE	370210	DEX-
2-7045		

SDTRL MUP NUMBER 9



NOTES

I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892210

II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

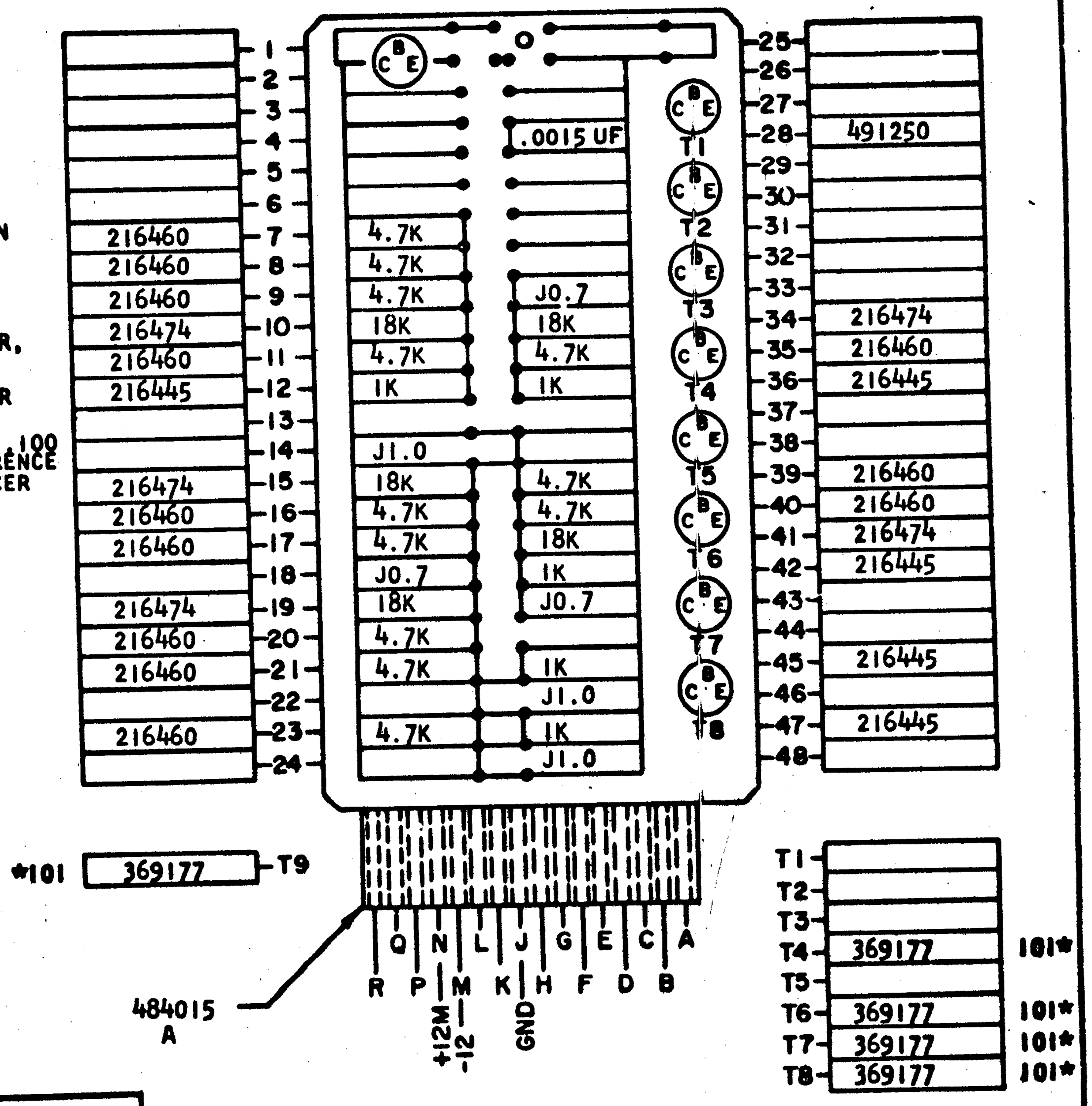
III ALL RESISTORS ARE 1/4 WATT AND ±5% UNLESS OTHERWISE NOTED

IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296

XIV ASSEMBLE WITH JEDEC TRANSISTOR

XV POSITIONS T4,T6,T7,T8,T9 ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. SEE REFERENCE DRAWING 493813. USE TRANSISTOR SPACER 483070 AS REQUIRED.

* XVI TECHNICAL LABORATORY EVALUATION INCOMPLETE. ADDITIONAL USAGE TO BE AVOIDED. THIS PART SUBJECT TO WITHDRAWAL.



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H D Hanford HS	7-8-60

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- SDTRL				
	MUP NUMBER 9				
DESIGN			TYPE	SMS 1410	
DETAIL	CB	7-13-60	SCALE	NONE	
CHECK	CJ	7-13-60	DRAW	VE	7-1-60
APPRO	BSE	7-13-60	CHECK	JJS	7-6-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
7-13-60	109738	NOTE XVI			
10-24-60	110089	NOTE XVI			
3-3-61	111272	NOTE XVI			
5-3-61	111803	NOTE XVI			
6-19-62	113945	NOTE XVI			

DEVELOPMENT NO.
X0724

370210

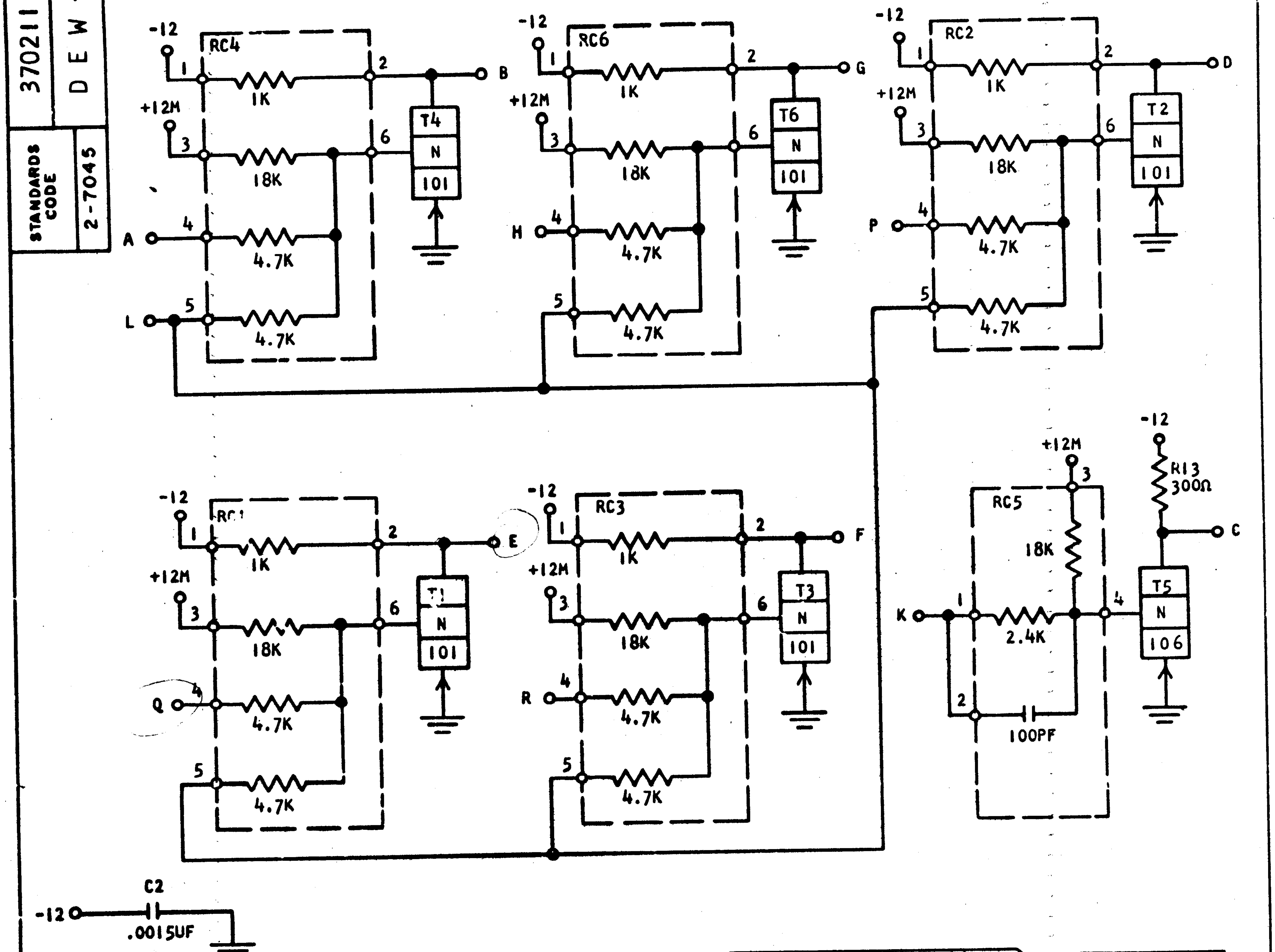
S

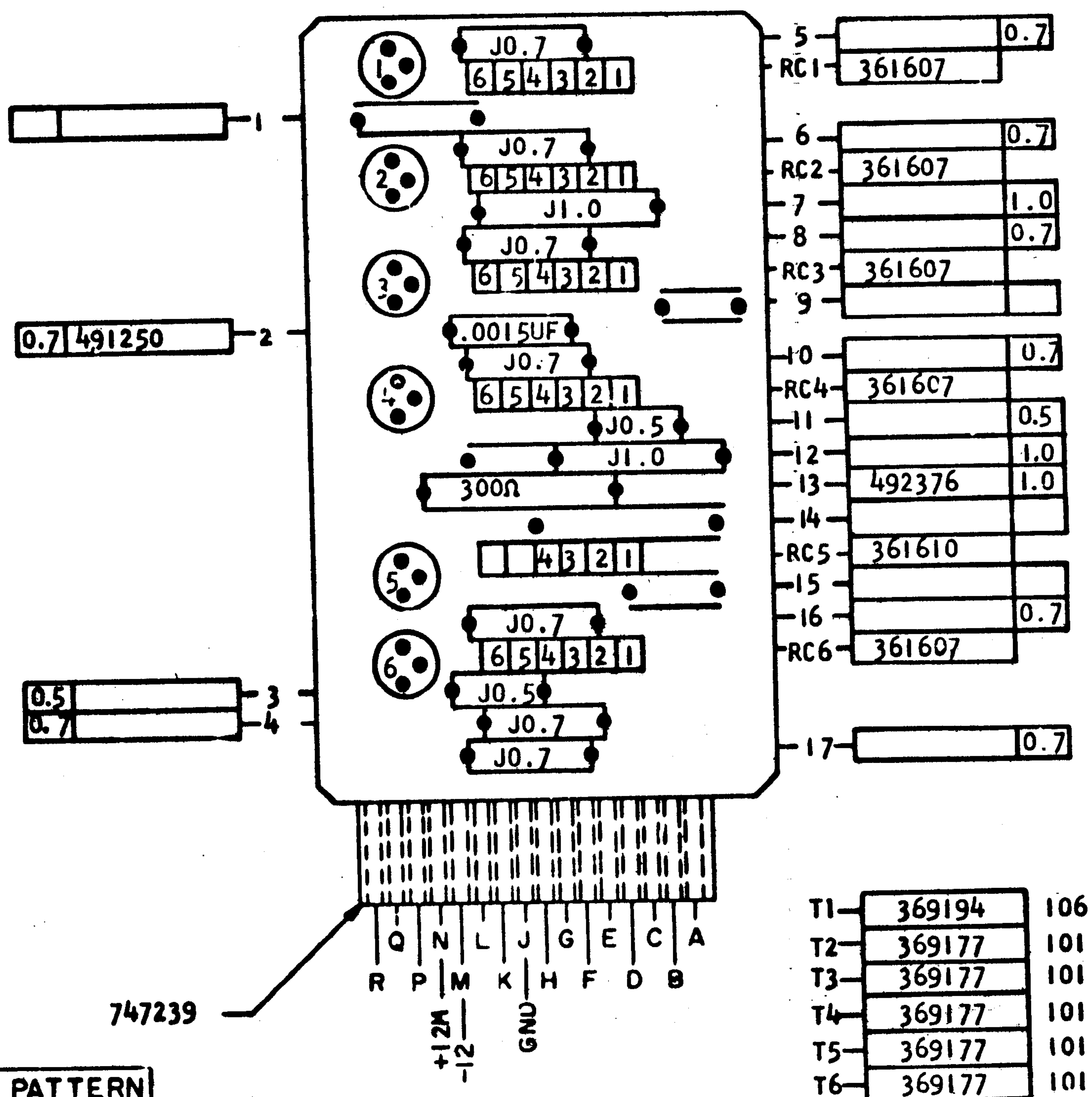
CG

370211

MUP NUMBER 8

370211	DEW -
STANDARDS CODE	2-7045





T1	369194	106
T2	369177	101
T3	369177	101
T4	369177	101
T5	369177	101
T6	369177	101

COMPONENT SIDE

NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892211
- XI ASSEMBLE TO ENGINEERING SPECIFICATIONS 895396 AND 891999
- XII ALL RESISTORS ARE 1 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- XIV POSITIONS T1 THRU T6 ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING

B

DPD CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
HDH (GS)	7-8-60

HOLE PATTERN
490375

INTERNATIONAL BUSINESS MACHINES CORP.				
NAME	CARD ASM TSTR- MUP NUMBER 8			
DESIGN			MODEL	SMS
DETAIL	CB	7-13-60	SCALE	NONE
CHECK	CB	7-13-60	DRAW	LIG 5-8-63
APPRO	BES	7-13-60	CHECK	[illegible]

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
SEE INDEX CARD					
5-17-61	112007	NOTE XVI			
6-19-62	113945	NOTE XVI			
7-12-63	116194	MDL			

DEVELOPMENT NO.
X0725
CIRCUIT FAMILY
SDTRL

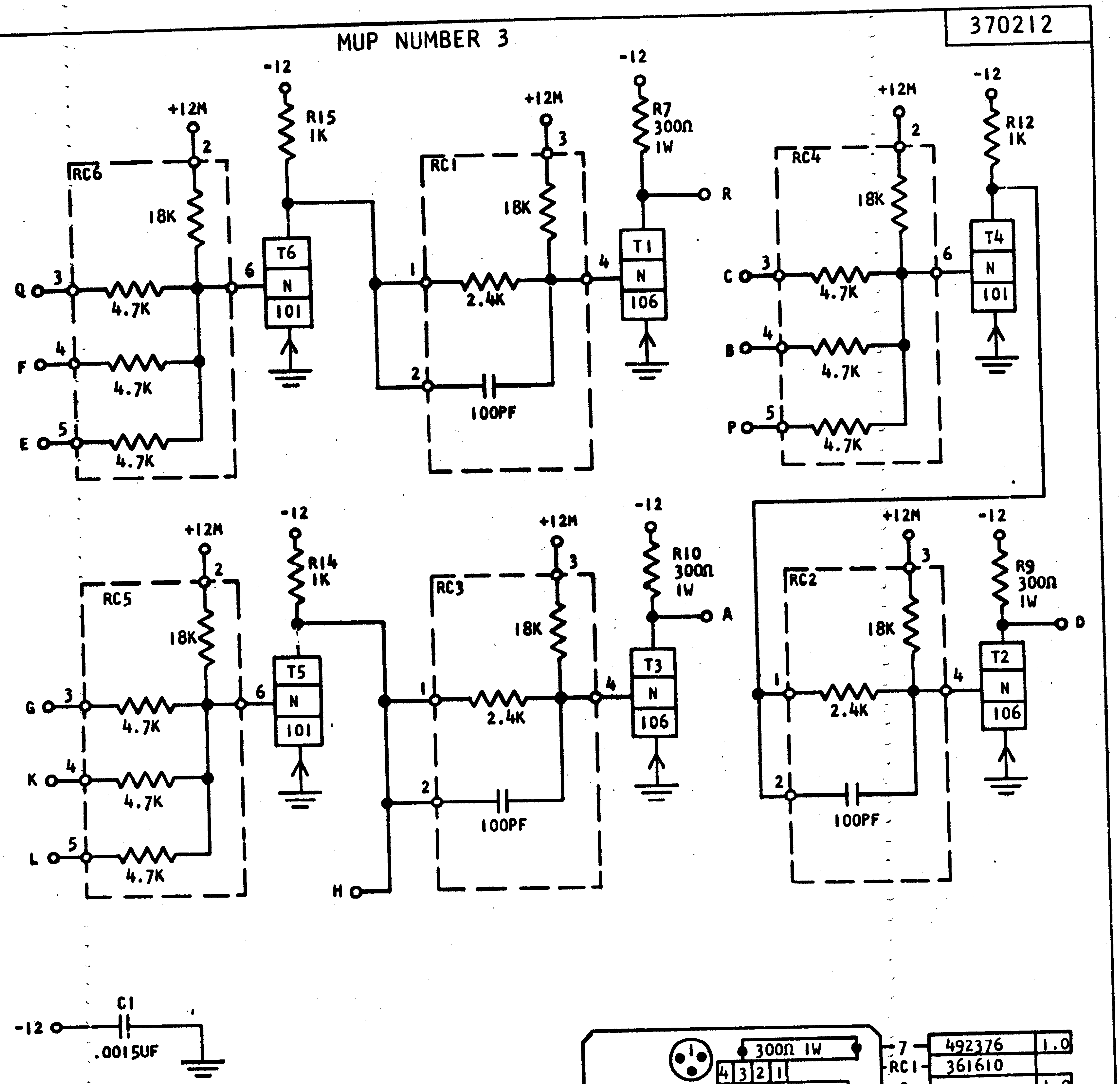
370211

370212

DEQ-

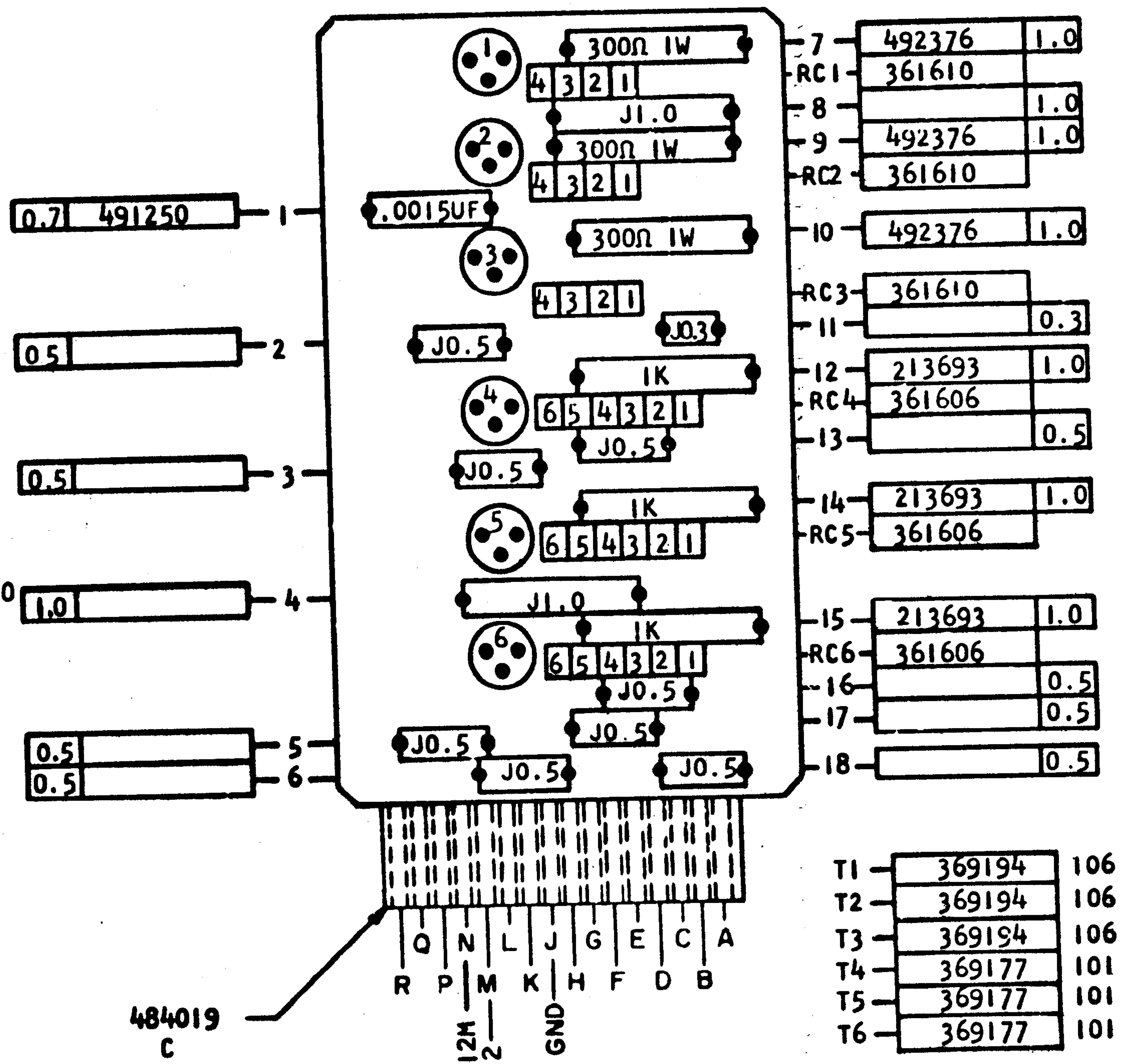
STANDARDS CODE 2-7045

MUP NUMBER 3



NOTES

- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892212
- II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- IV POSITICNS T1 THRU T6 ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED ON .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING.



COMPONENT SIDE

B

DPD CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
HDH (GS)	7-8-60

HOLE PATTERN
490379

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR-MUP NUMBER 3				
DESIGN	BS	5-10-60	MODEL	SMS	
DETAIL	CB	7-13-60	SCALE	NONE	
CHECK	IWB	7-7-60	DRAW	LIG	5-8-63
APPRO	BES	7-13-60	CHECK		

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
SEE INDEX CARD					
5-16-61	112003	NOTE XVI			
6-21-62	113940	NOTE XVI			
7-12-63	116194	MDL			

DEVELOPMENT NO.
X0726A

CIRCUIT FAMILY
SDTRL

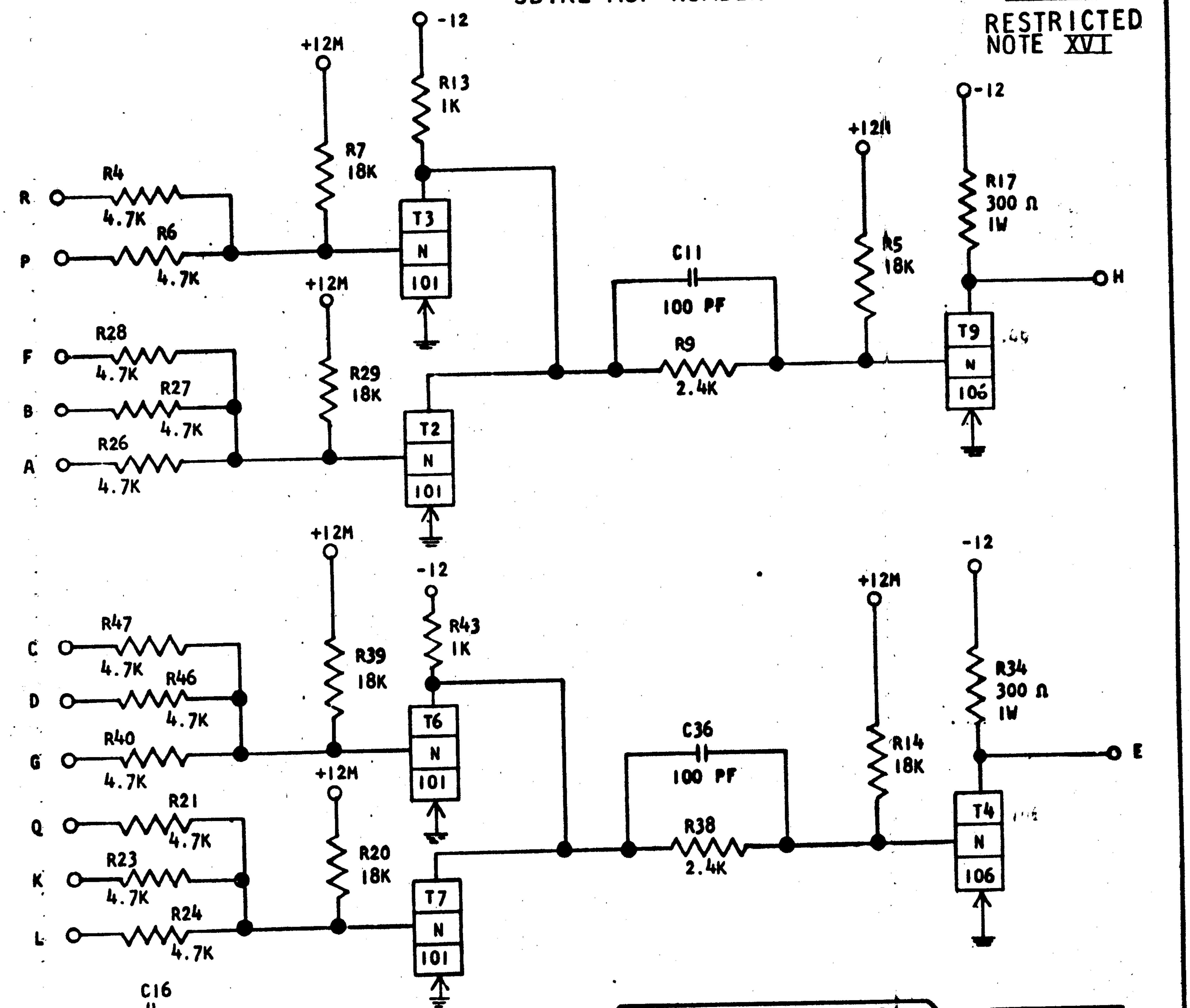
370212

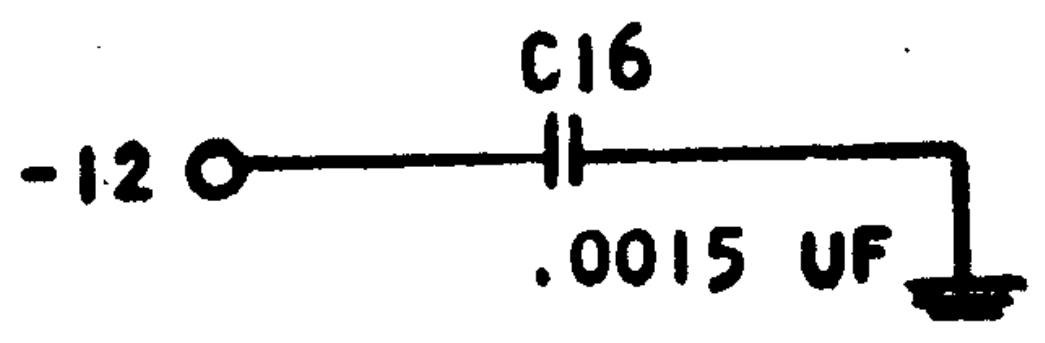
SDTRL MUP NUMBER 4

370213

RESTRICTED
NOTE XVI

370213
DER-
STANDARDS CODE
2-7045





NOTES

I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892213

II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

III ALL RESISTORS ARE 1/4 WATT AND ±5% UNLESS OTHERWISE NOTED

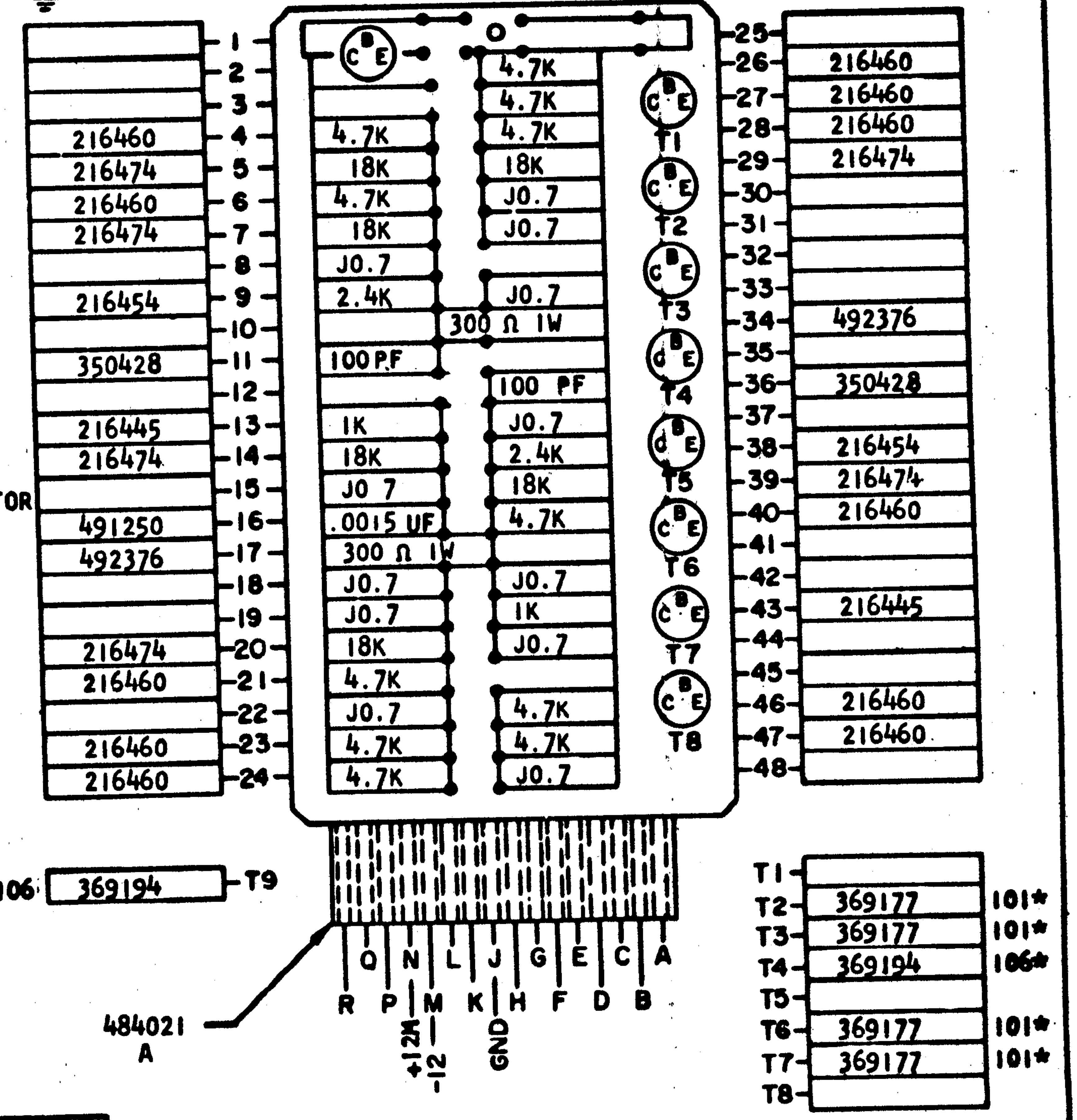
IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296

XIV ASSEMBLE WITH JEDEC TRANSISTOR

XV POSITIONS T2,T3,T4,T6,T7 AND T9 ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. SEE REFERENCE DRAWING 493821. USE TRANSISTOR SPACER 483070 AS REQUIRED.

* XVI TECHNICAL LABORATORY EVALUATION INCOMPLETE. ADDITIONAL USAGE TO BE AVOIDED. THIS PART SUBJECT TO WITHDRAWAL

XVII



B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H. D. Hanford	7-8-60

HOLE PATTERN
493457

COMPONENT SIDE

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- SDTRL MUP NUMBER 4			
DESIGN			TYPE	SMS
DETAIL	[illegible]	7-14-60	SCALE	NONE
CHECK	[illegible]	7-7-60	DRAW	VE 7-1-60
APPRO	[illegible]	7-14-60	CHECK	[illegible] 7-1-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
7-14-60	109744	NOTE XVI			
10-5-60	110091	NOTE XVI			
3-3-61	111272	NOTE XVI			
5-16-61	112003	NOTE XVI			
6-19-62	113945	NOTE XVI			

DEVELOPMENT NO.
X0735B

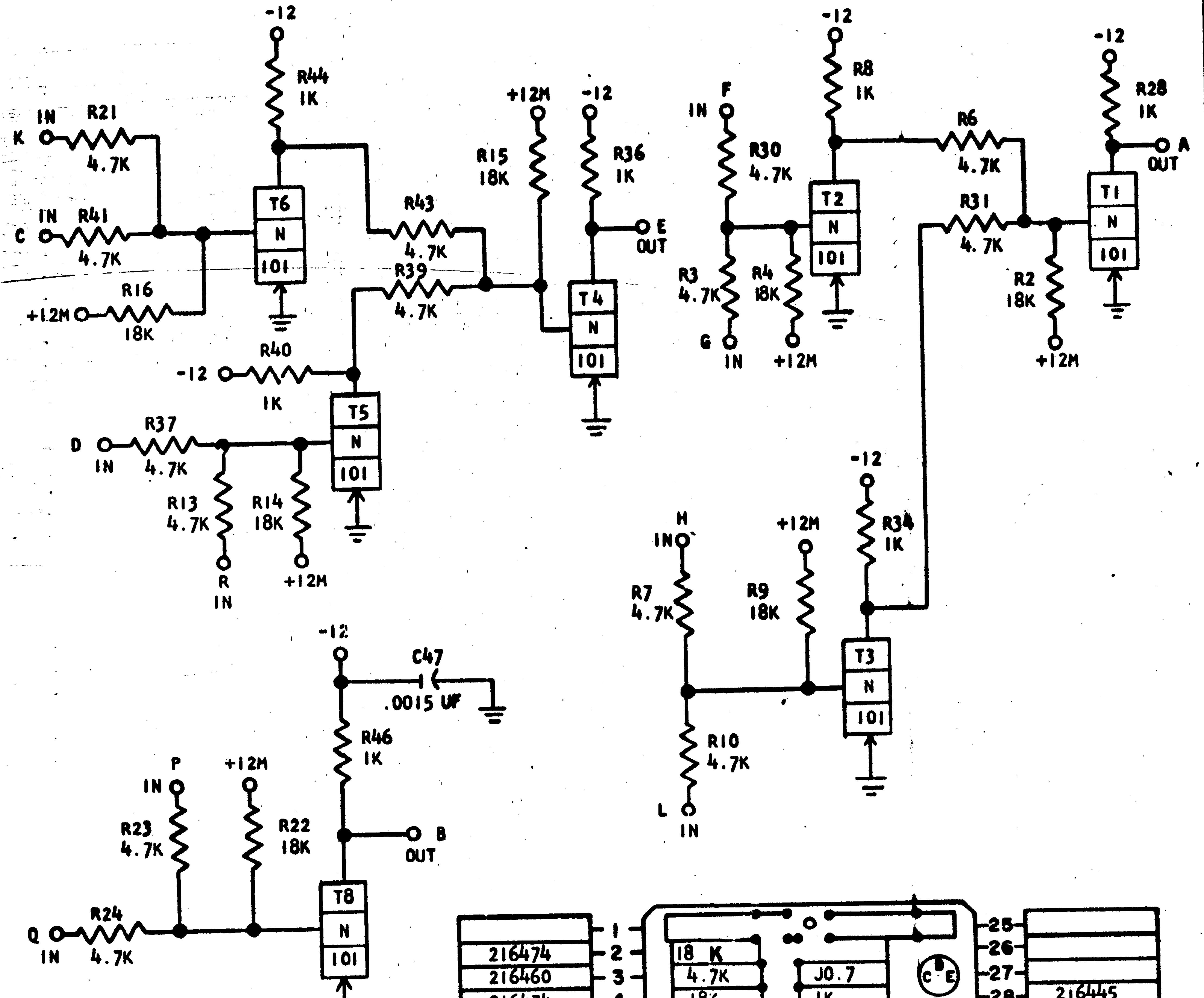
370213

STANDARDS CODE	370214	DEV-
	2-7045	

370214

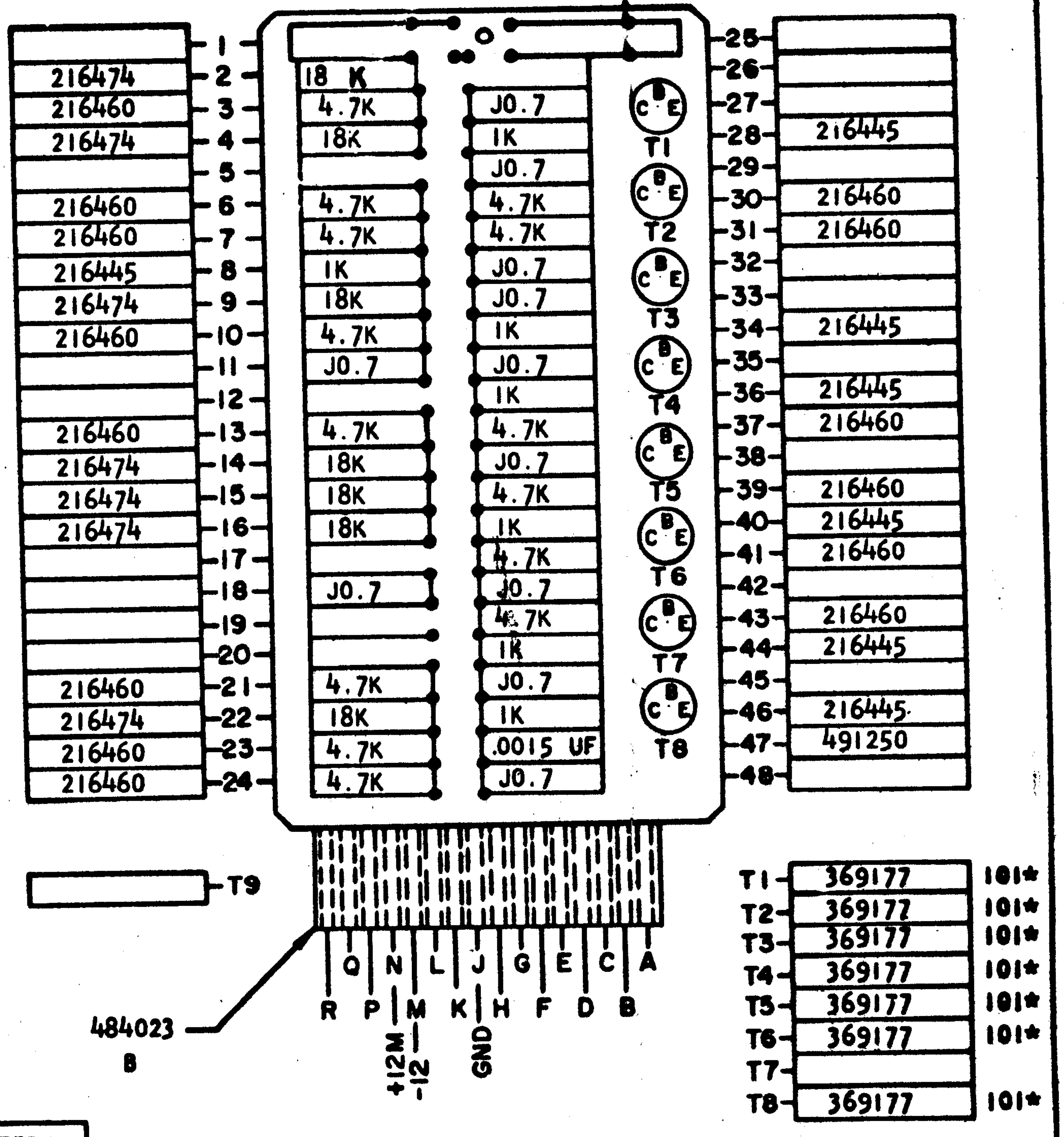
RESTRICTED
NOTE XVI

SDTRL MUP NUMBER 7



NOTES

- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892214
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/4 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- XIV ASSEMBLE WITH JEDEC TRANSISTOR
- XV POSITIONS T1,T2,T3,T4,T5,T6,T8 ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. SEE REFERENCE DRAWING 493822. USE TRANSISTOR SPACER 483070 AS REQUIRED.
- *XVI TECHNICAL LABORATORY EVALUATION INCOMPLETE. ADDITIONAL USAGE TO BE AVOIDED. THIS PART SUBJECT TO WITHDRAWAL



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H. D. Hay	7-8-60

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.				
NAME	CARD ASM TSTR- SDTRL MUP NUMBER 7			
DESIGN			TYPE	SMS
DETAI'	C.B.	7-14-60	SCALE	NONE
CHECK	IWB	7-7-60	DRAW	VE 7-1-60
APPRO		7-14-60	CHECK	7-7-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
7-14-60	109744	NOTE XVI			
10-24-60	110085	NOTE XVI			
3-3-61	111272	NOTE XVI			
5-2-61	111806	NOTE XVI			
6-19-62	113945	NOTE XVI			

DEVELOPMENT NO.
X0742A

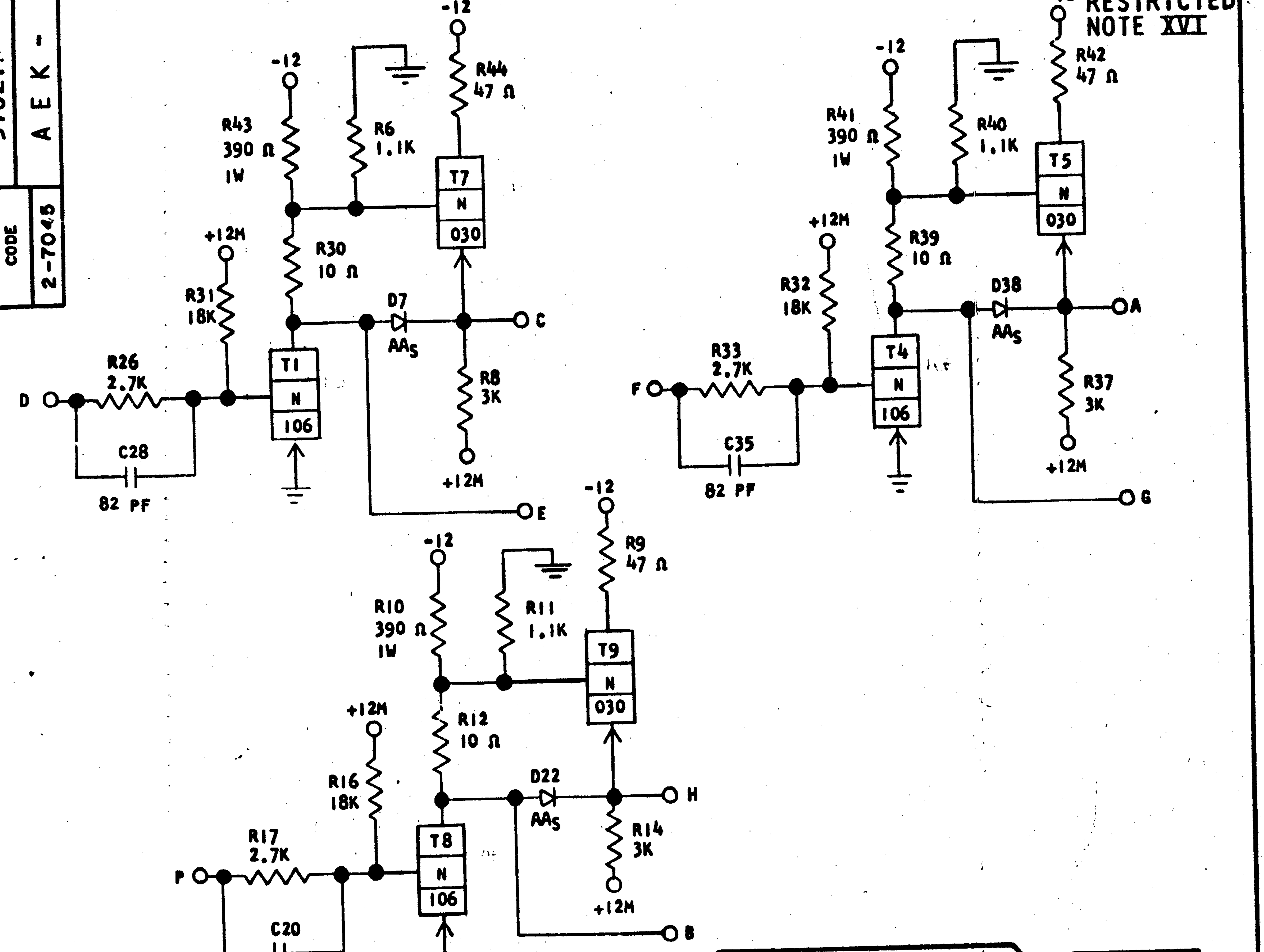
370214

370215
AEK -

STANDARDS CODE
2-7045

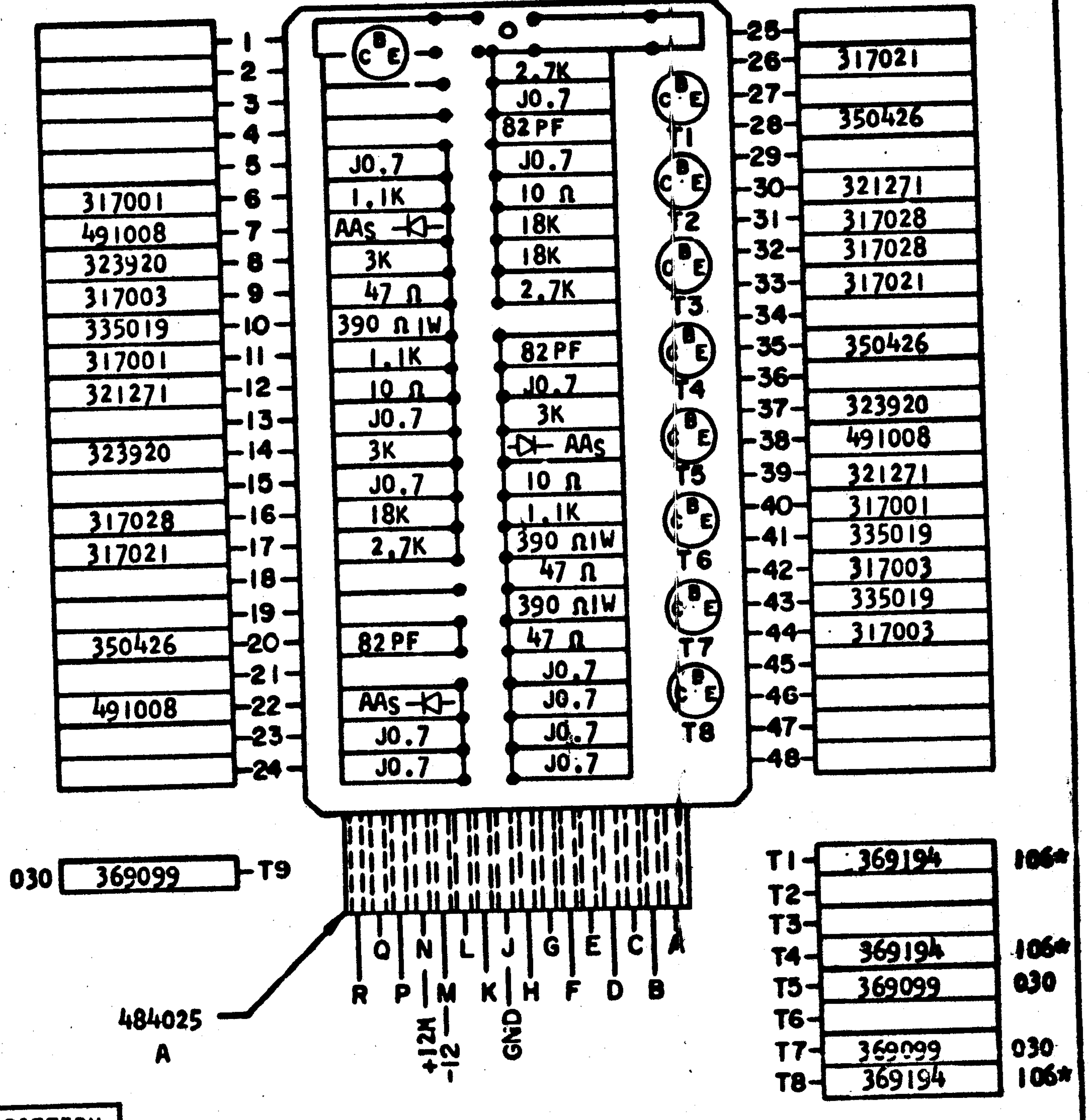
SDTRL 40 BASE INVERTING MESA ALLOY POWER DRIVER

370215
RESTRICTED
NOTE XVI



NOTES

- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892215
- II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- IV "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- XIV
- XV POSITIONS T1, T4 AND T8 ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. SEE REFERENCE DRAWING 493824. USE TRANSISTOR SPACER 483070 AS REQUIRED.
- *XVI TECH LAB EVALUATION INCOMPLETE. ADDITIONAL USAGE TO BE AVOIDED. THIS PART SUBJECT TO WITHDRAWAL
- XVII



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H. D. Hanford	6-29-60

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.				
NAME	CARD ASM TSTR-SDTRL 40 BASE INVERTING MESA ALLOY POWER DRIVER			
DESIGN			TYPE	SMS
DETAIL	CB	7-6-60	SCALE	NONE
CHECK	CB	7-6-60	DRAW	PJZ 7-5-60
APPRO	BE	7-7-60	CHECK	KCH 7-5-60

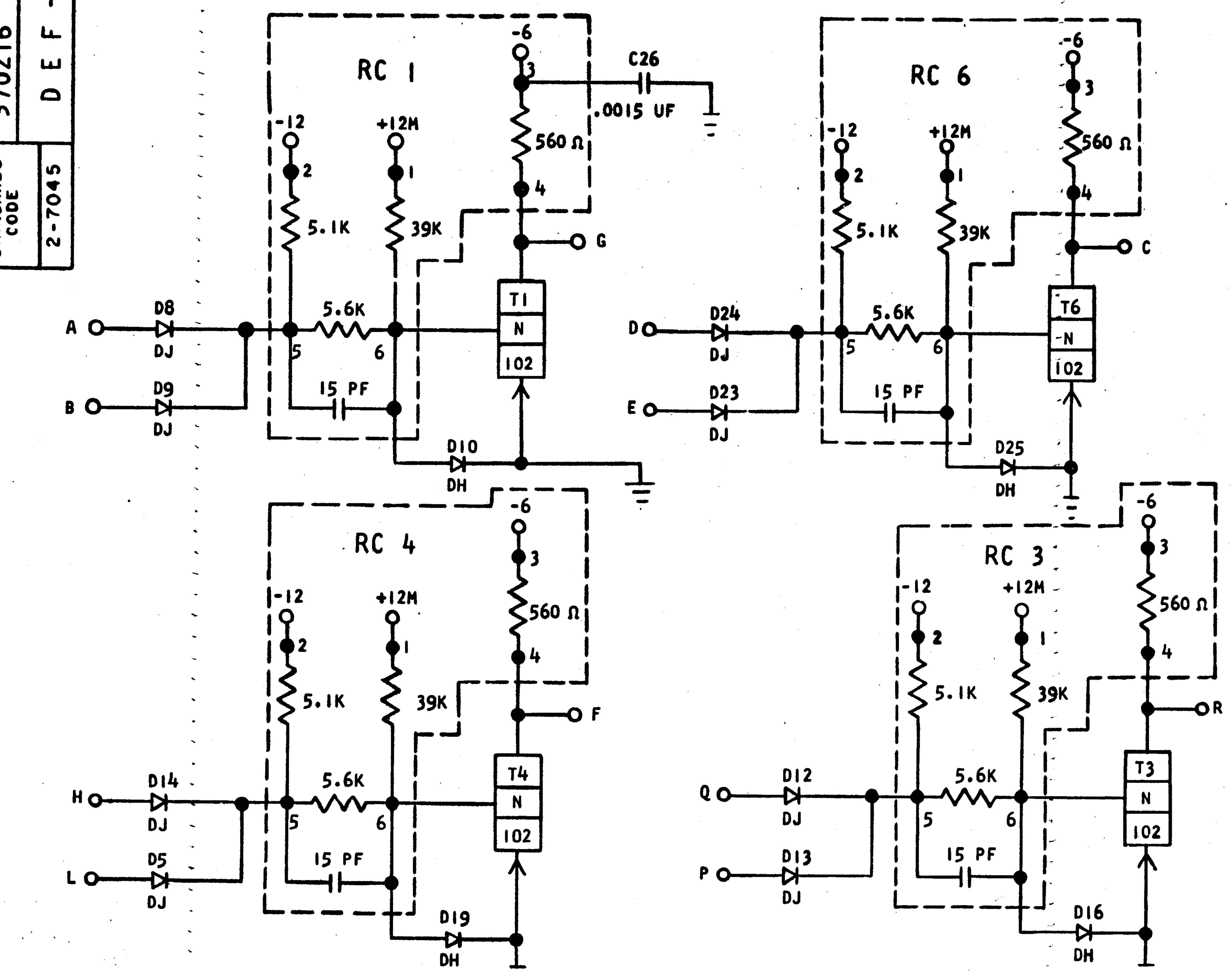
DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
7-8-60	109644	NOTE XVI	6-19-62	113945	NOTE XVI	X0795C
10-5-60	110091	NOTE XVI				
11-23-60	110193	NOTE XVI				
3-3-61	111272	NOTE XVI				
5-19-61	111804	NOTE XVI				

370215

370216	D E F -
STANDARDS CODE	2-7045

SDTDL-FOUR 2 WAY N AND LOGIC BLOCKS WITH LOADS

370216



NOTES

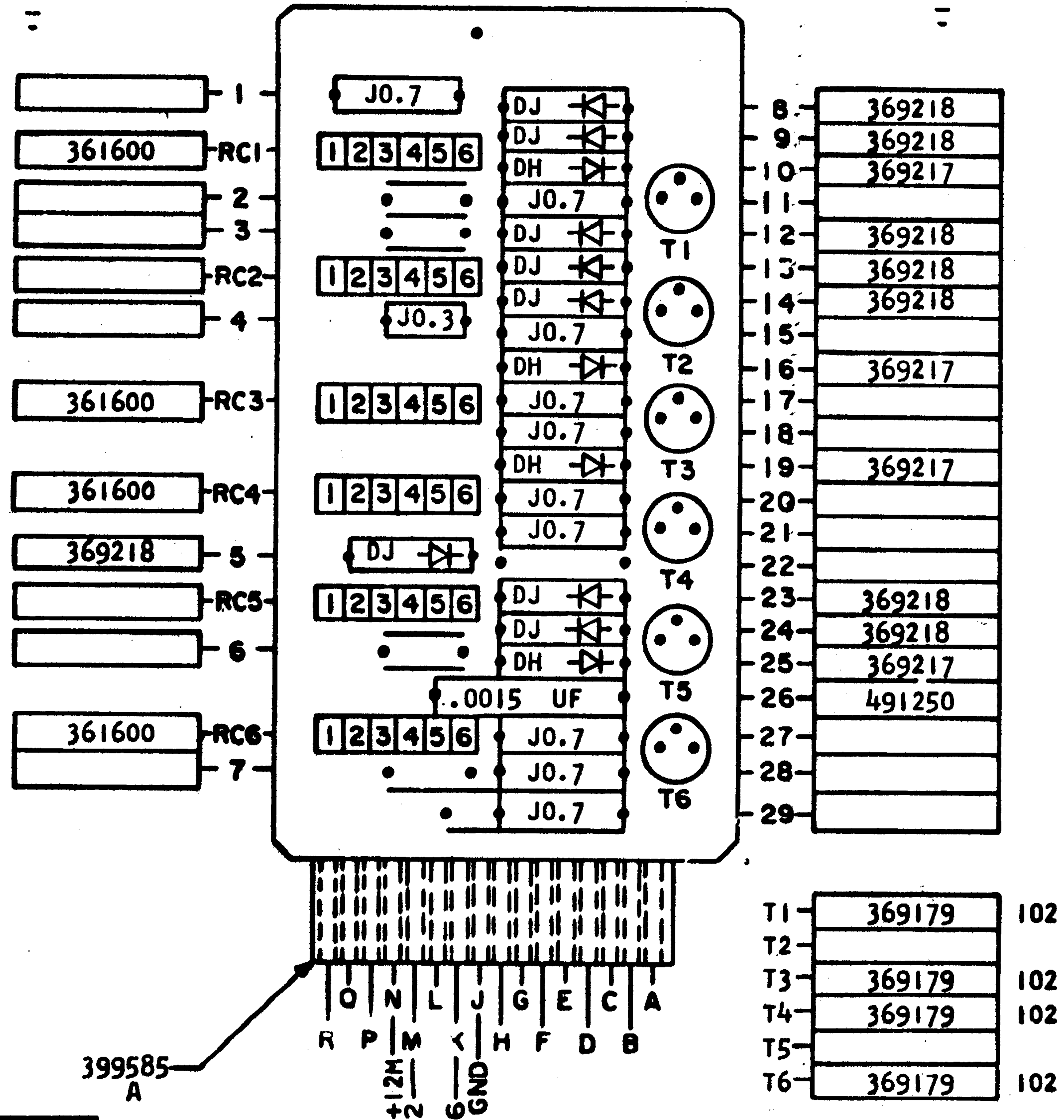
I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892216

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV POSITIONS T1, T3, T4 AND T6 ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING.



COMPONENT SIDE

DPD CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
H D H GS	7-1-60

HOLE PATTERN
399402

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR-SDTDL-FOUR 2 WAY N AND LOGIC BLOCKS WITH LOADS			
DESIGN			MODEL	SMS
DETAIL	AP	3-27-62	SCALE	NONE
CHECK	AP	3-27-62	DRAW	HAV 5-9-62
APPRO	GWS	8-7-67	CHECK	AP 5-21-62

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
7-14-60	109647	NOTE XVI			
5-15-61	111244	NOTE XVI			
12-5-61	113104	NOTE XVI			
8-1-62	114383	MDL			
4-28-64	D121009	GWS			

DEVELOPMENT NO.
X0755A

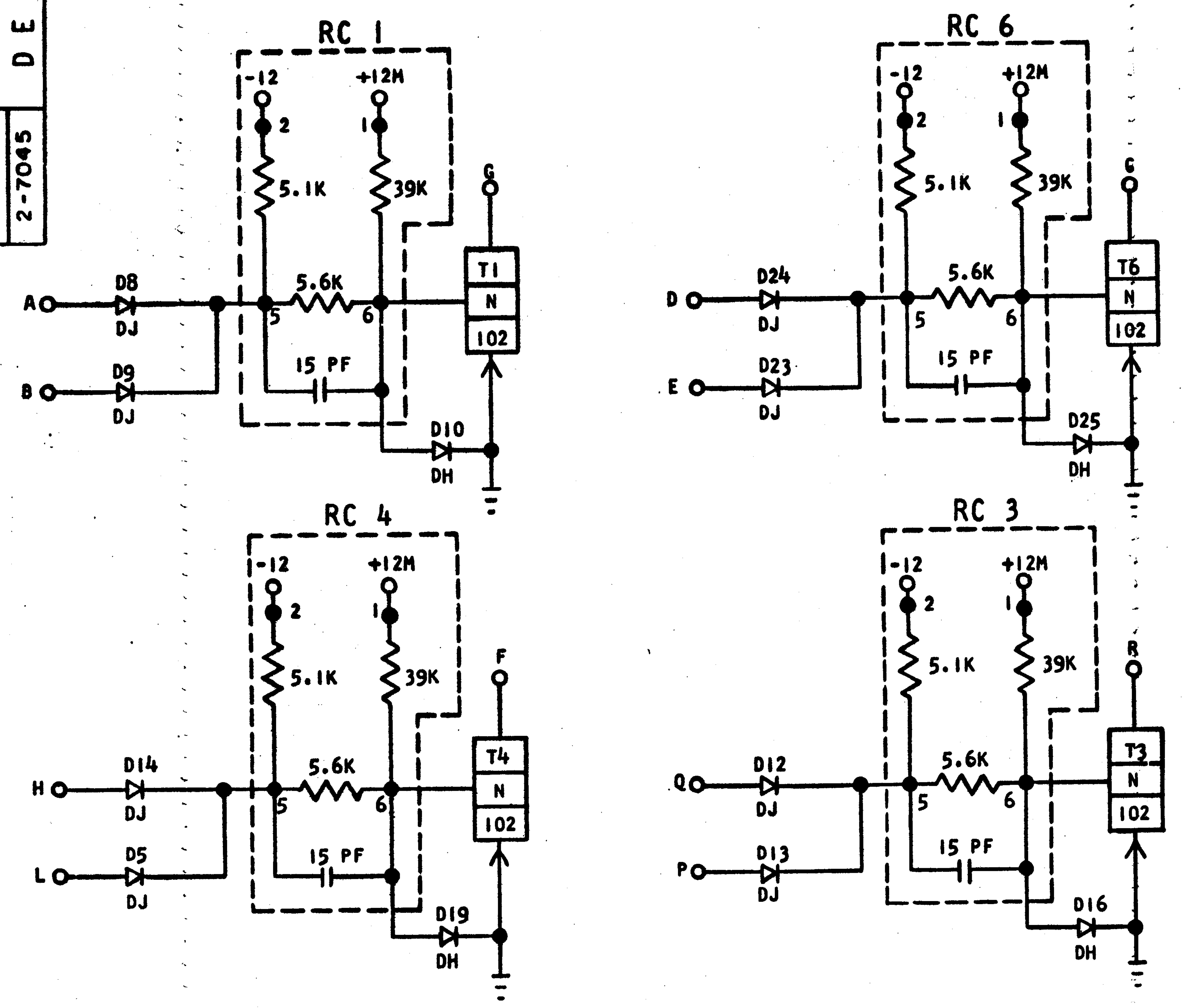
370216

5

370217	D E G -
STANDARDS CODE	2-7045

SDTDL FOUR 2-WAY N AND LOGIC BLOCKS WITHOUT LOADS

370217



NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892216

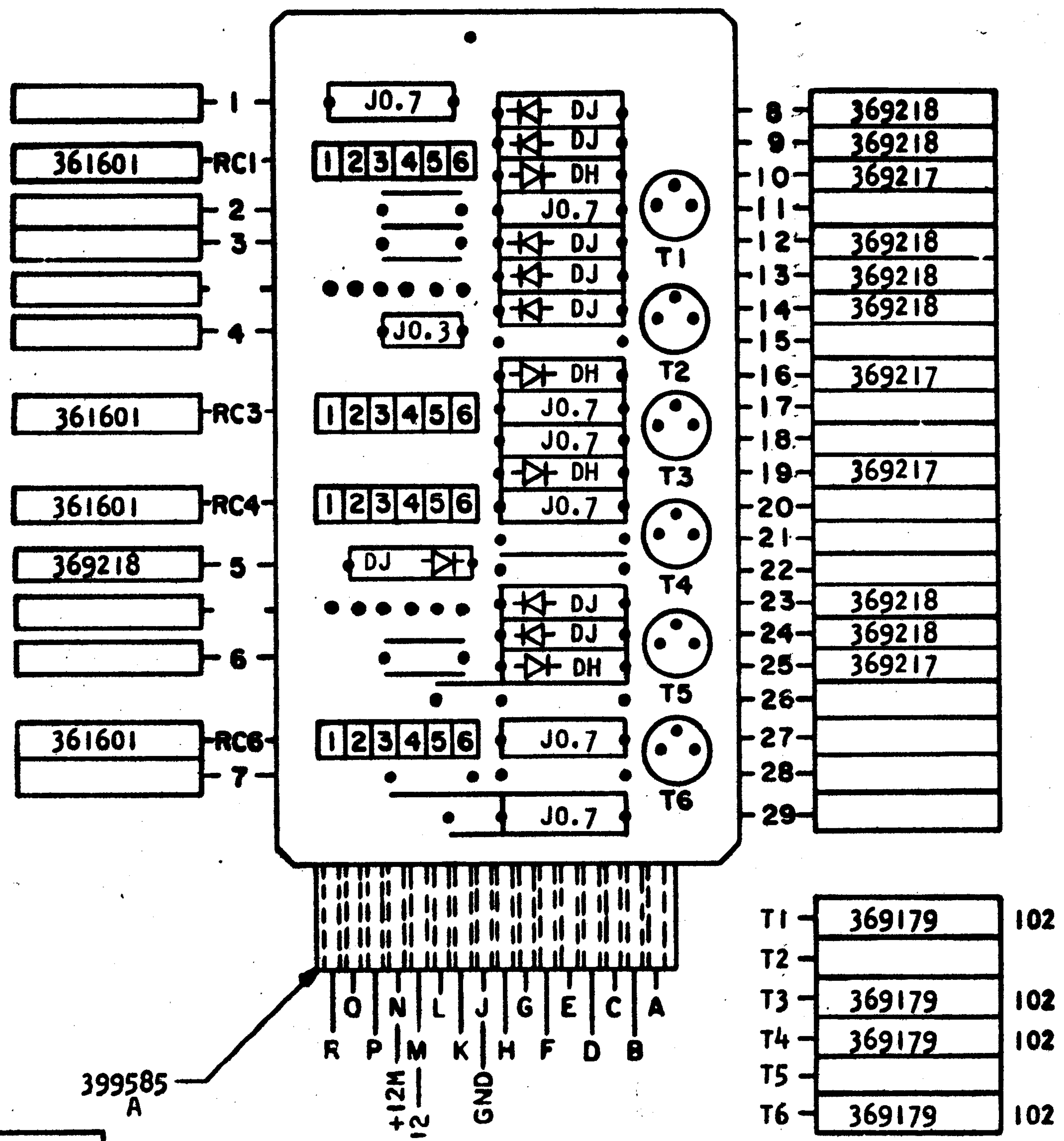
XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV POSITIONS T1, T3, T4 AND T6 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING

XV REFER TO FIELD SERVICE DRAWING PART NUMBER 729907 WHEN MAKING A CHANGE TO THIS CIRCUIT



COMPONENT SIDE

DPD CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
H D H GS	7-1-60

HOLE PATTERN
399402

INTERNATIONAL BUSINESS MACHINES CORP.				
NAME	CARD ASM TSTR-SDTDL FOUR 2-WAY N AND LOG BLKS WITHOUT LOADS			
DESIGN			MODEL	SMS
DETAIL	AP	3-27-62	SCALE	NONE
CHECK	AP	3-27-62	DRAW	HAV 5-18-62
APPRO	GWS		CHECK	AP 5-21-62

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
7-14-60	109647	NOTE XVI	4-28-64	D121009	GWS
5-15-61	111244	NOTE XVI			
12-5-61	113104	NOTE XVI			
8-21-62	D114375	MDL			
11-1-62	114383-D	MDL			

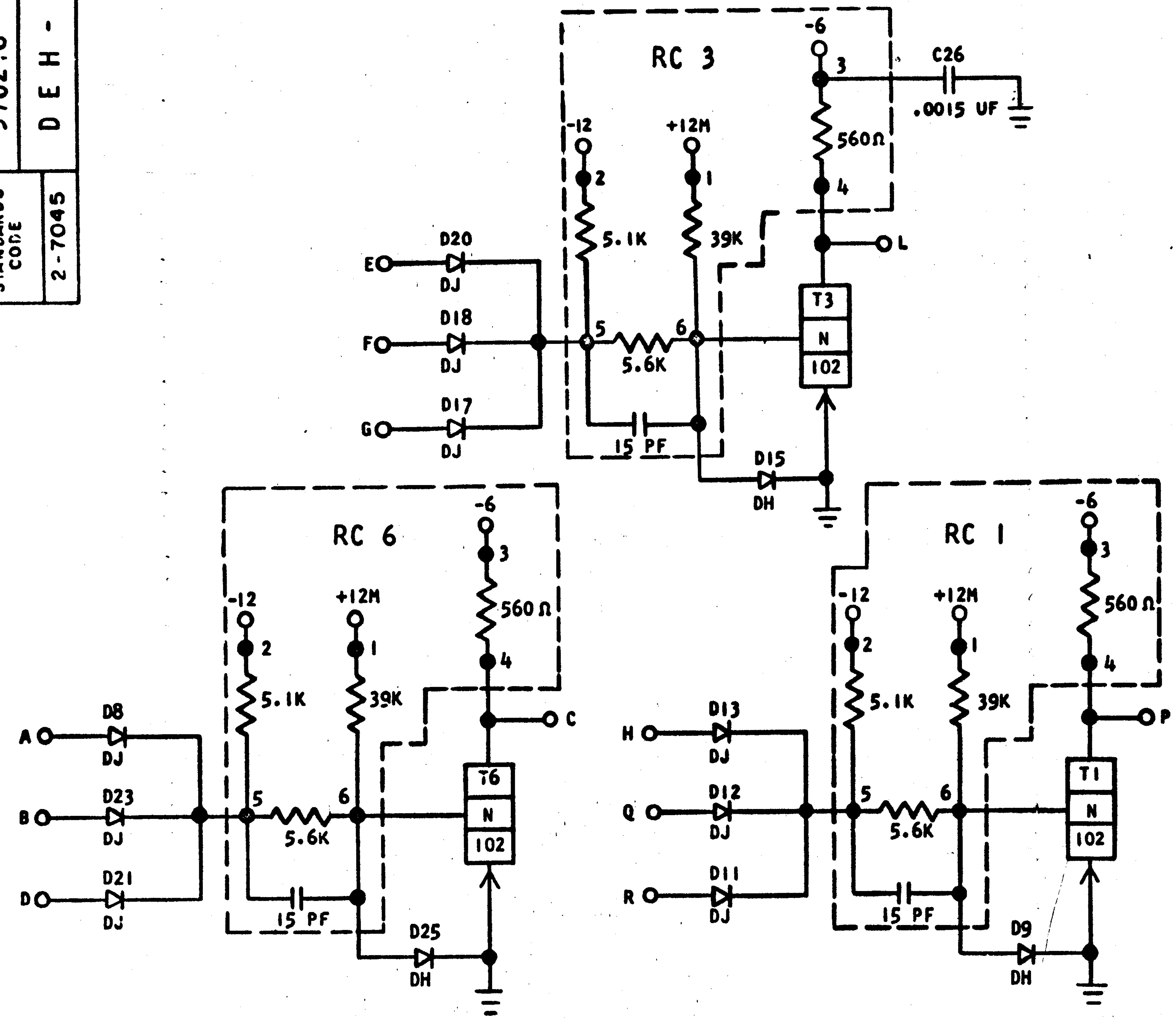
DEVELOPMENT NO.
X0706B

370217

370218	DEH-
STANDARDS CODE	2-7045

SDTDL-THREE 3-WAY N AND LOGIC BLOCKS WITH LOADS

370218



NOTES

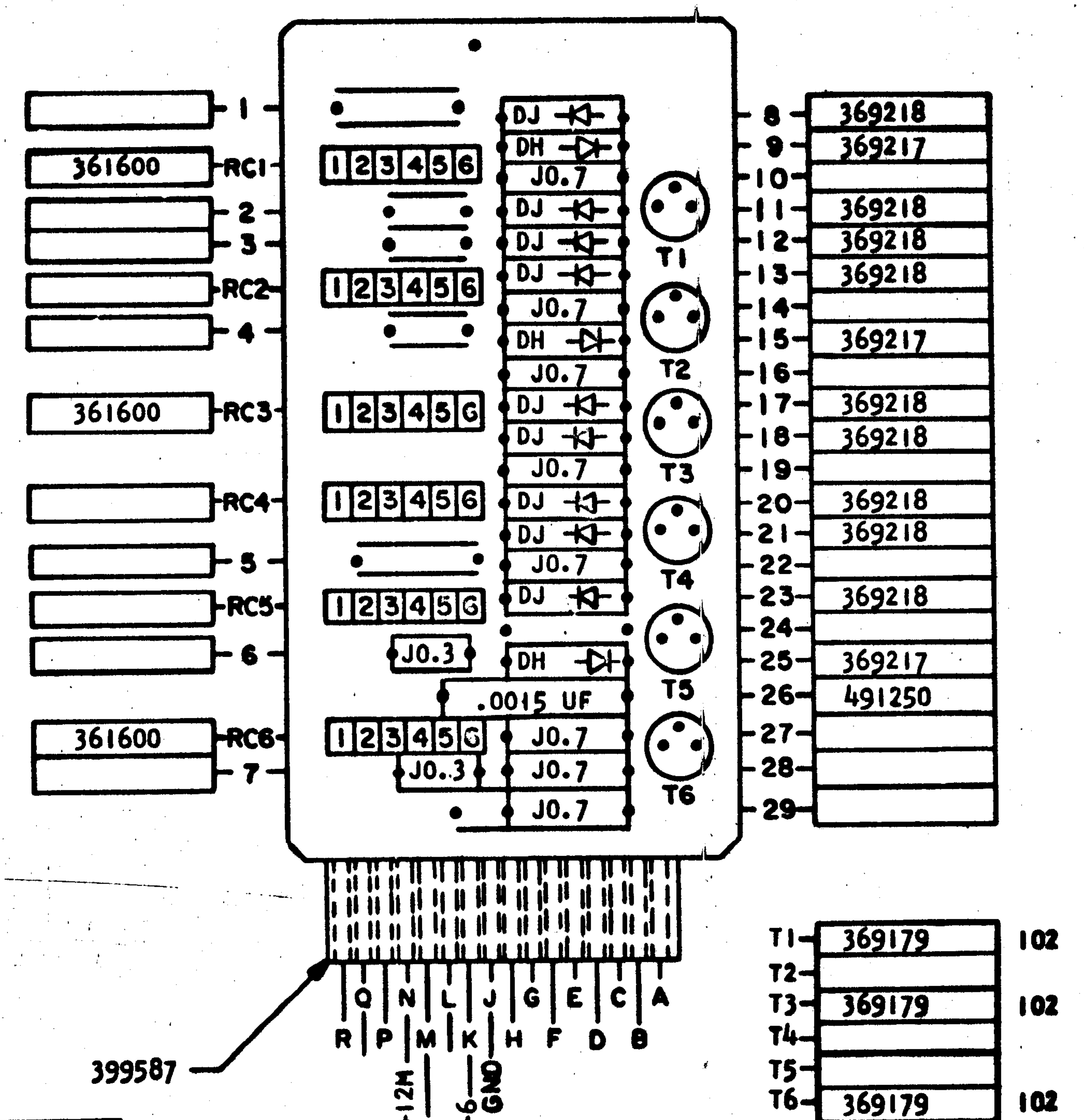
X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892216

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV POSITIONS T1, T3 AND T6 ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING



COMPONENT SIDE

DPD CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
H D H GS	7-1-60

HOLE PATTERN
399402

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR-SDTDL-THREE 3-WAY N AND LOGIC BLOCKS WITH LOADS				
DESIGN			MODEL	SMS	
DETAIL	AP	3-27-62	SCALE	NONE	
CHECK	AP	3-27-62	DRAW	HAV	5-18-62
APPRO	GWS	8-7-62	CHECK	AP	5-21-62

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
7-14-60	109647	NOTE XVI			
5-15-61	111244	NOTE XVI			
12-5-61	113104	NOTE XVI			
8-1-62	114383	MDL			

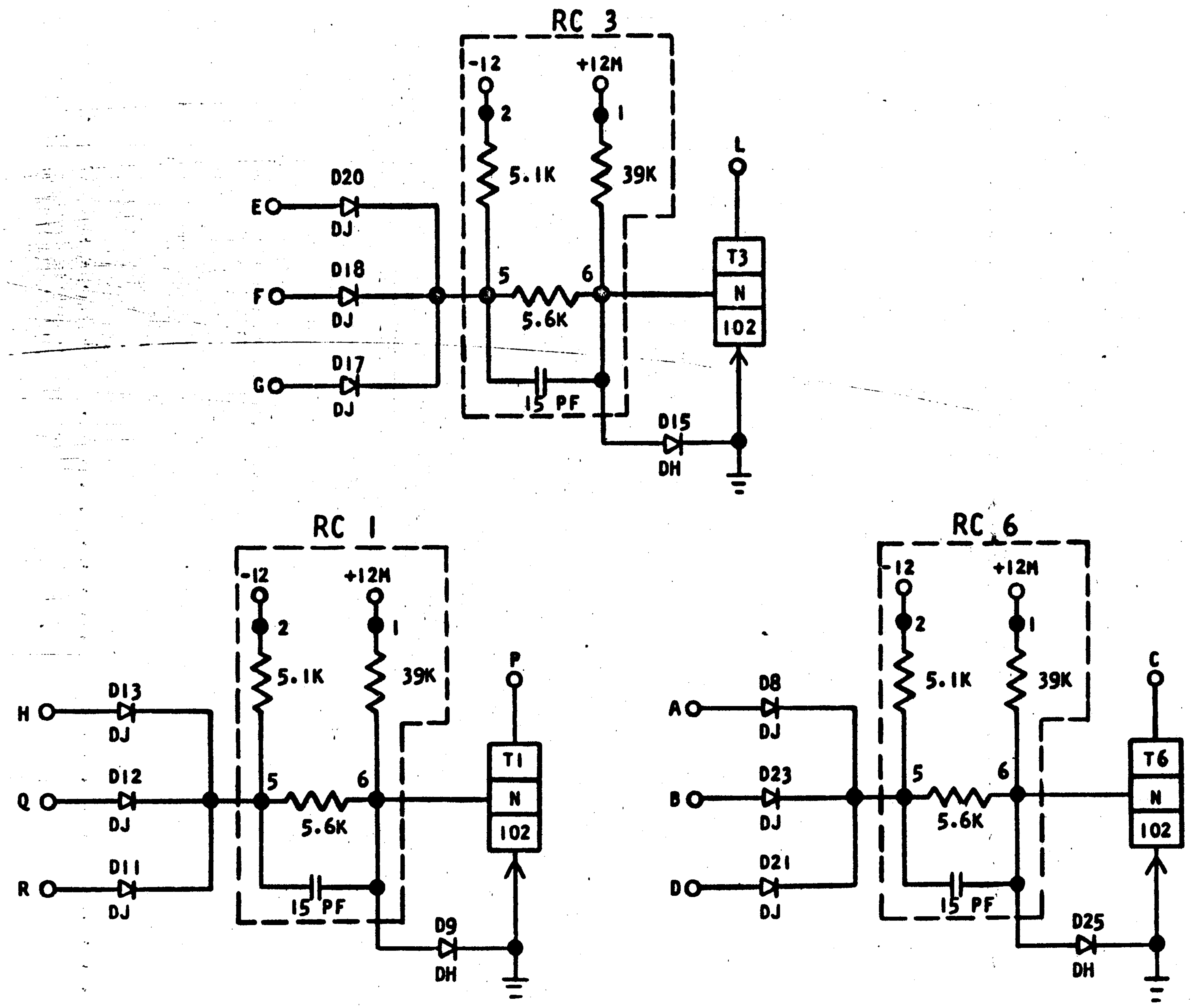
DEVELOPMENT NO.
X0747B

370218

370219	D E J -
STANDARDS CODE	2-7045

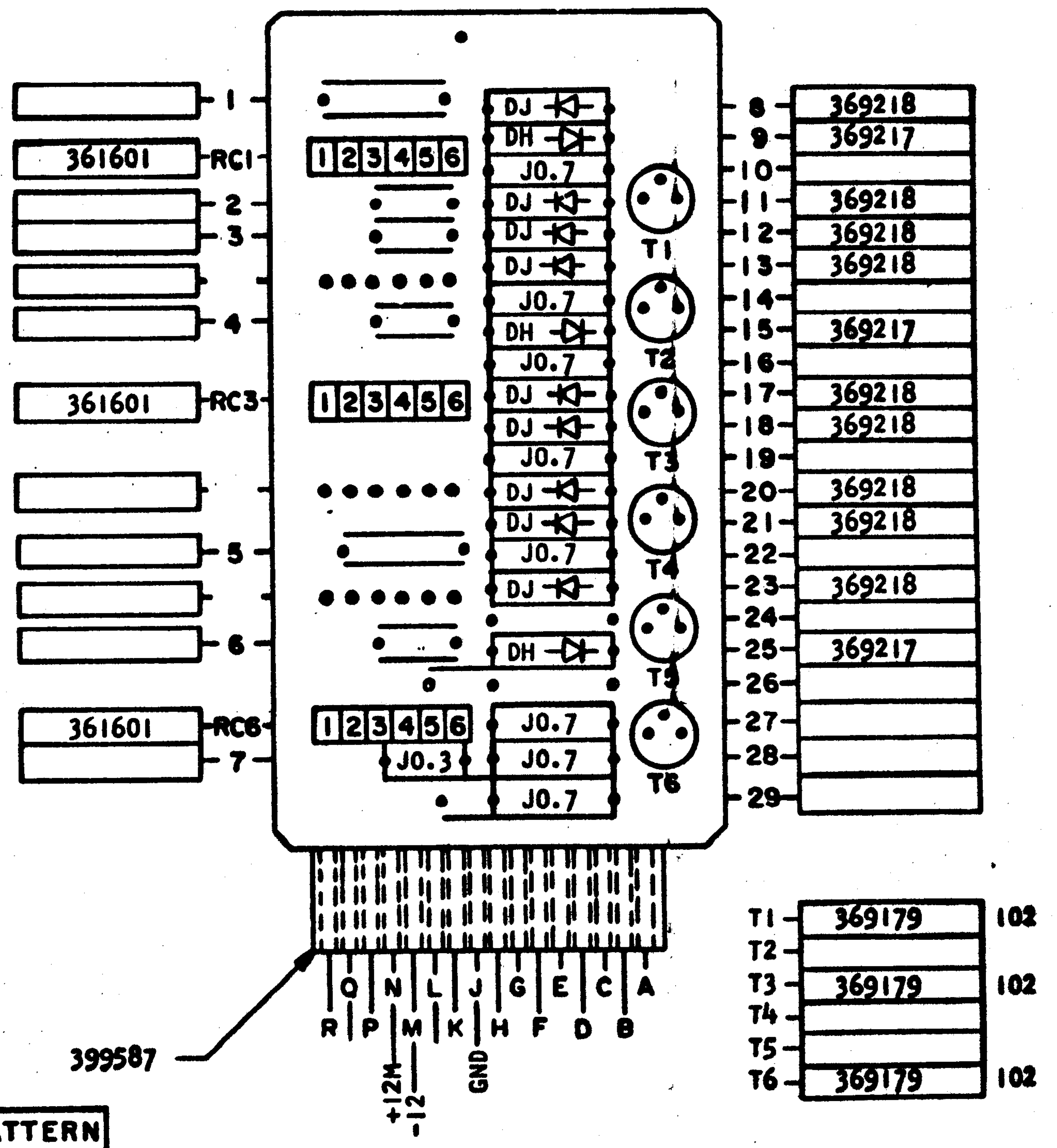
370219

SDTDL THREE 3-WAY N AND LOGIC BLOCKS WITHOUT LOADS



NOTES-

- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892216
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV POSITIONS T1, T3 AND T6 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING
- XV REFER TO FIELD SERVICE DRAWING PART NUMBER 729908 WHEN MAKING A CHANGE TO THIS CIRCUIT



COMPONENT SIDE

DPD CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
H D H GS	7-1-60

HOLE PATTERN
399402

INTERNATIONAL BUSINESS MACHINES CORP.				
NAME	CARD ASM TSTR-SDTDL THREE 3-WAY N AND LOG BLKS WITHOUT LDS			
DESIGN			MODEL	SMS
DETAIL	AP	3-27-60	SCALE	NONE
CHECK	AP	3-27-60	DRAW	HAV 5-18-62
APPRO	GWS		CHECK	HQ 5-21-62

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
7-14-60	109647	NOTE XVI			
5-15-61	111244	NOTE XVI			
12-5-61	113104	NOTE XVI			
8-21-62	D114375	MDL			
11-1-62	114383-D	MDL			

DEVELOPMENT NO.
X0705B

370219

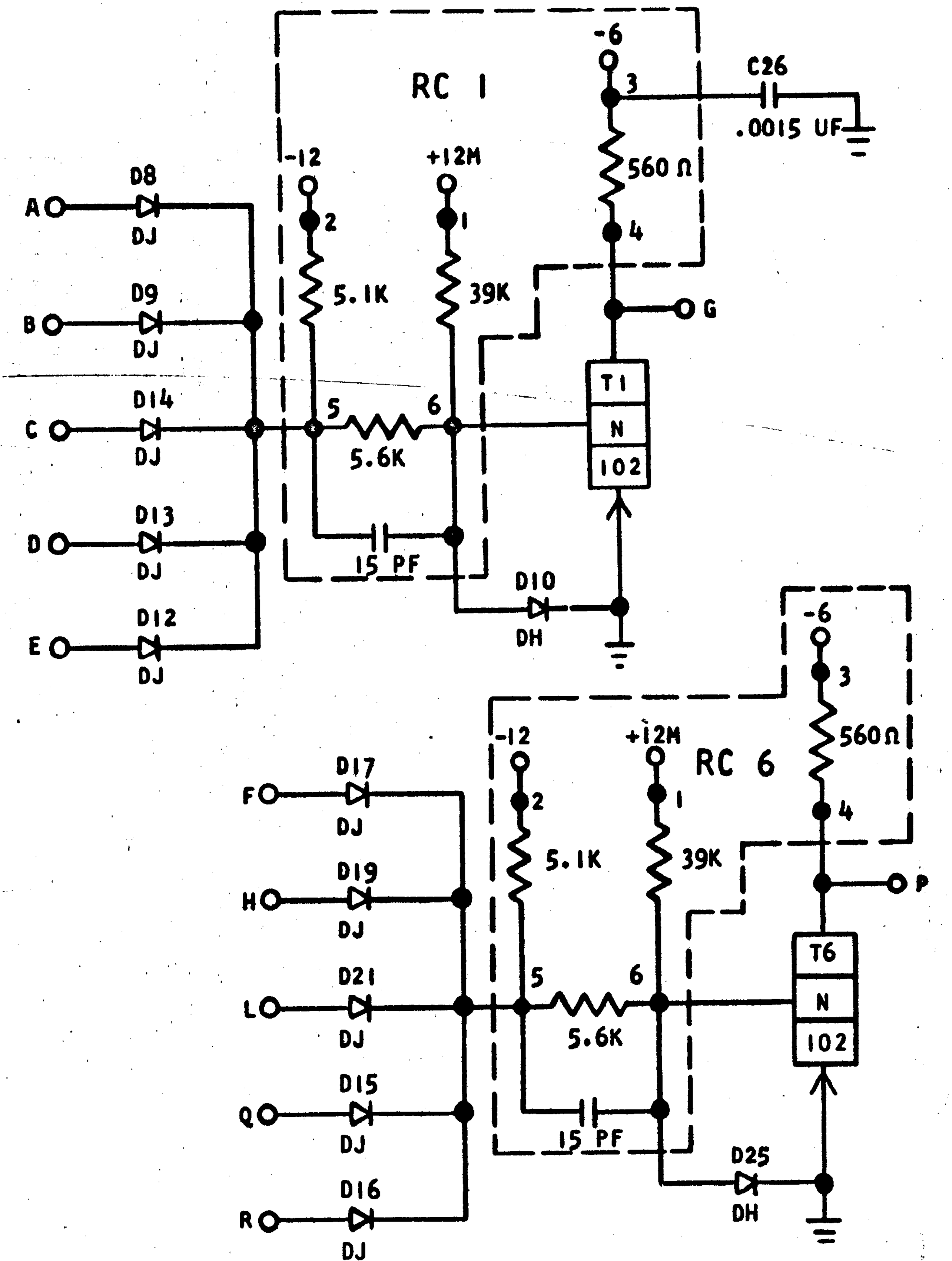
370220

DEK-

STANDARDS CODE 2-7045

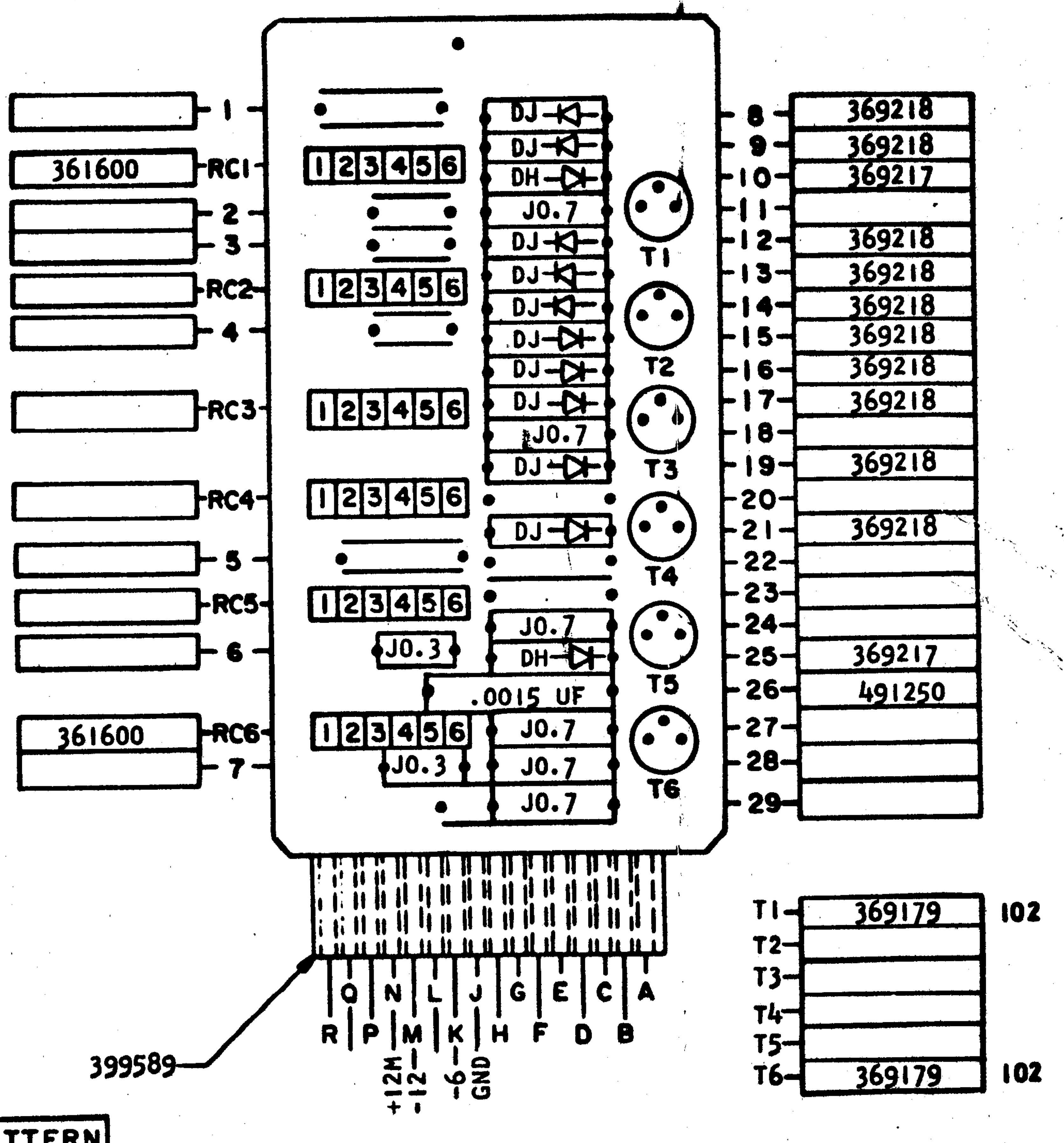
SDTDL - TWO 5-WAY N AND LOGIC BLOCKS WITH LOADS

370220



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892216
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV POSITIONS T1 AND T6 ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING



COMPONENT SIDE

DPD CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
H D H GS	7-1-60

HOLE PATTERN
399402

INTERNATIONAL BUSINESS MACHINES CORP.				
NAME	CARD ASM TSTR-SDTDL-TWO 5-WAY N AND LOGIC BLKS WITH LOADS			
DESIGN			MODEL	SMS
DETAIL	AP	3-27-62	SCALE	NONE
CHECK	AP	3-27-62	DRAW	HAV 5-16-62
APPRO	GWS	[illegible]	CHECK	[illegible]

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
7-13-60	109649	NOTE XVI			
5-12-61	111245	NOTE XVI			
12-5-61	113104	NOTE XVI			
8-1-62	114383	MDL			

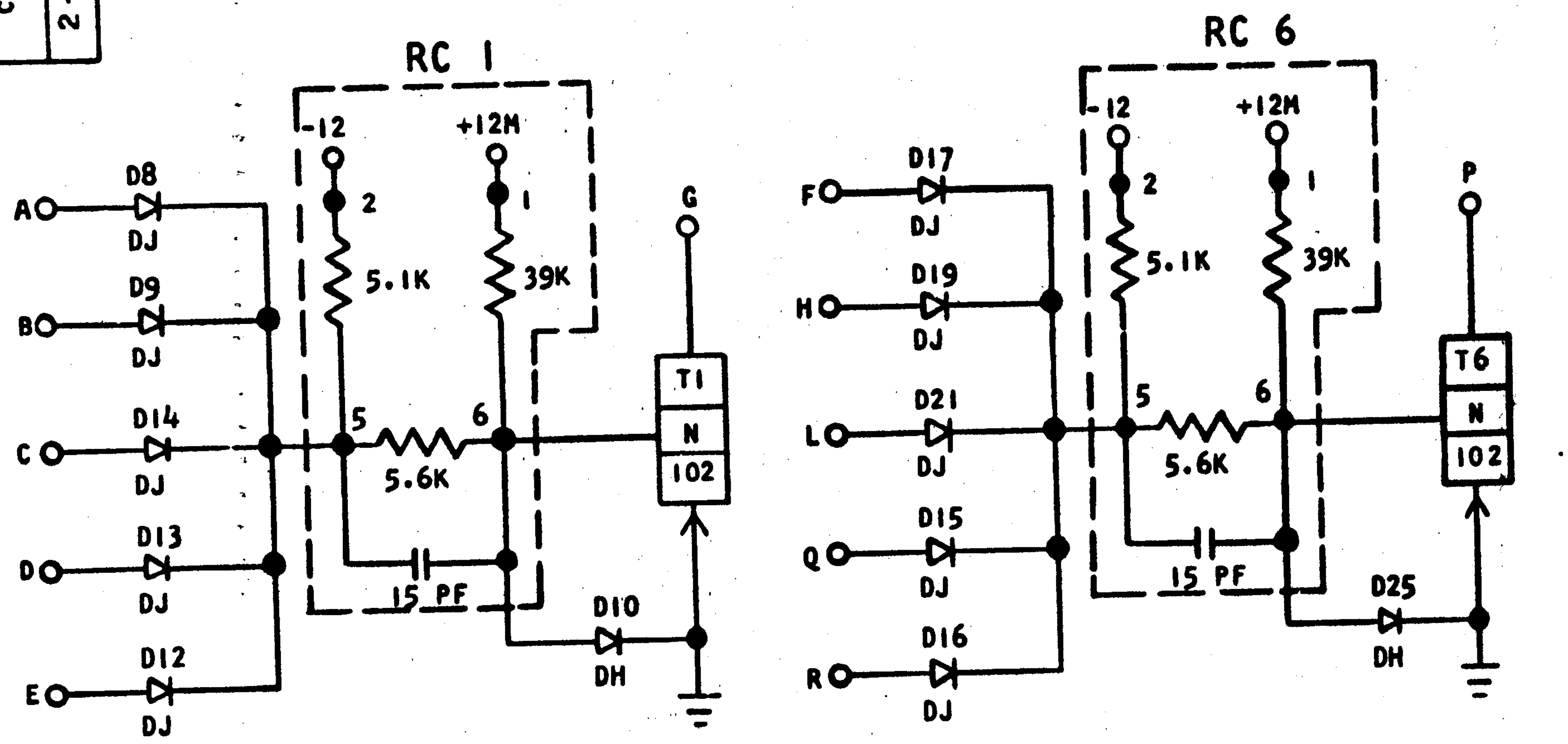
DEVELOPMENT NO.
X0754B

370220

370221	DEL-
STANDARDS CODE	2-7045

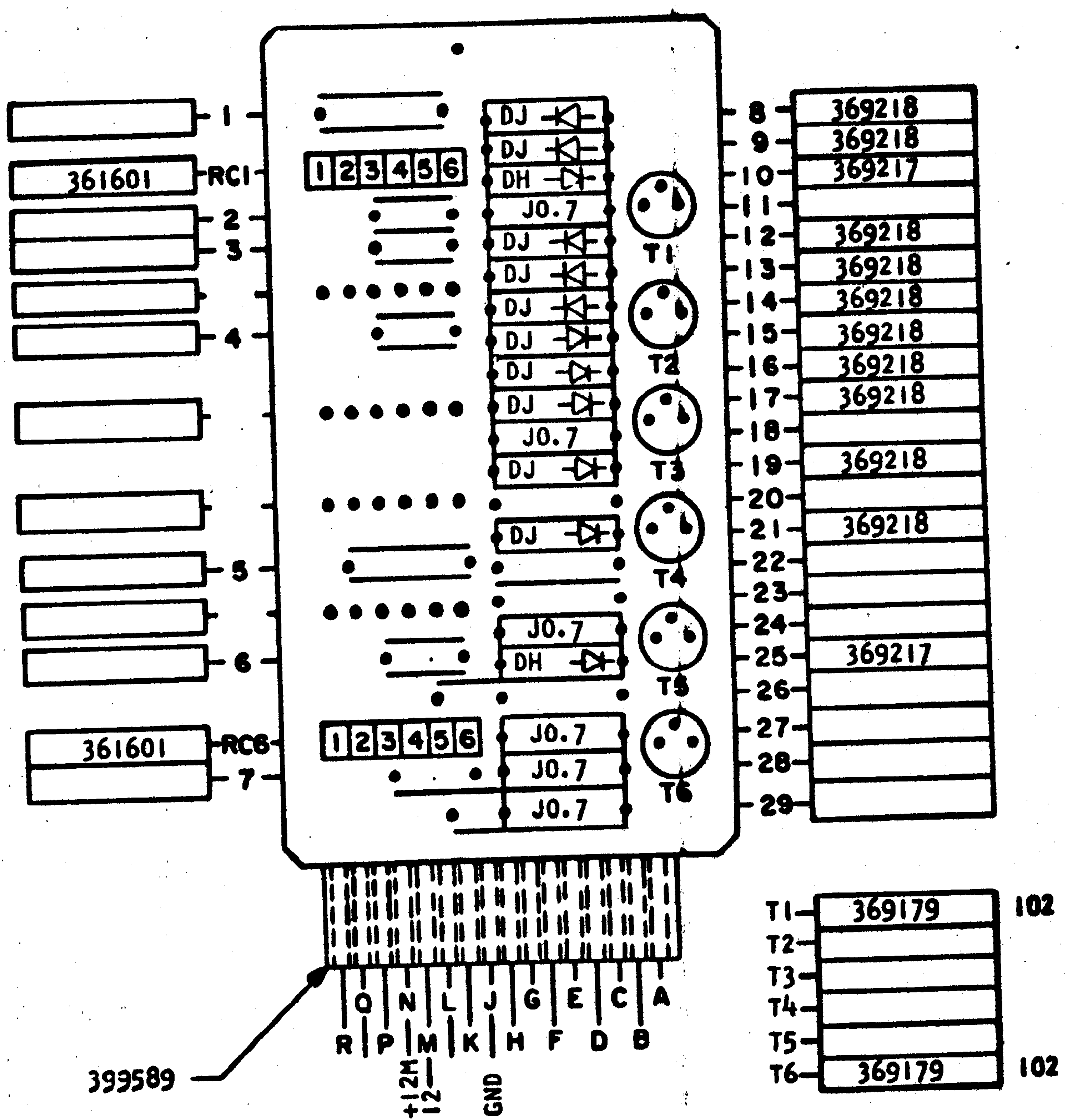
SDTDL TWO 5-WAY N AND LOGIC BLOCKS WITHOUT LOADS

370221



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892216
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV POSITIONS T1 AND T6 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING



COMPONENT SIDE

DPD CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
H D H GS	7-1-60

HOLE PATTERN
399402

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR-SDTDL TWO 5- WAY N AND LOGIC BLKS WITHOUT LDS				
DESIGN			MODEL	SMS	
DETAIL	AP	3-27-62	SCALE	NONE	
CHECK	AP	3-27-62	DRAW	HAV	5-14-62
APPRO	GWS		CHECK	AP	5-21-62

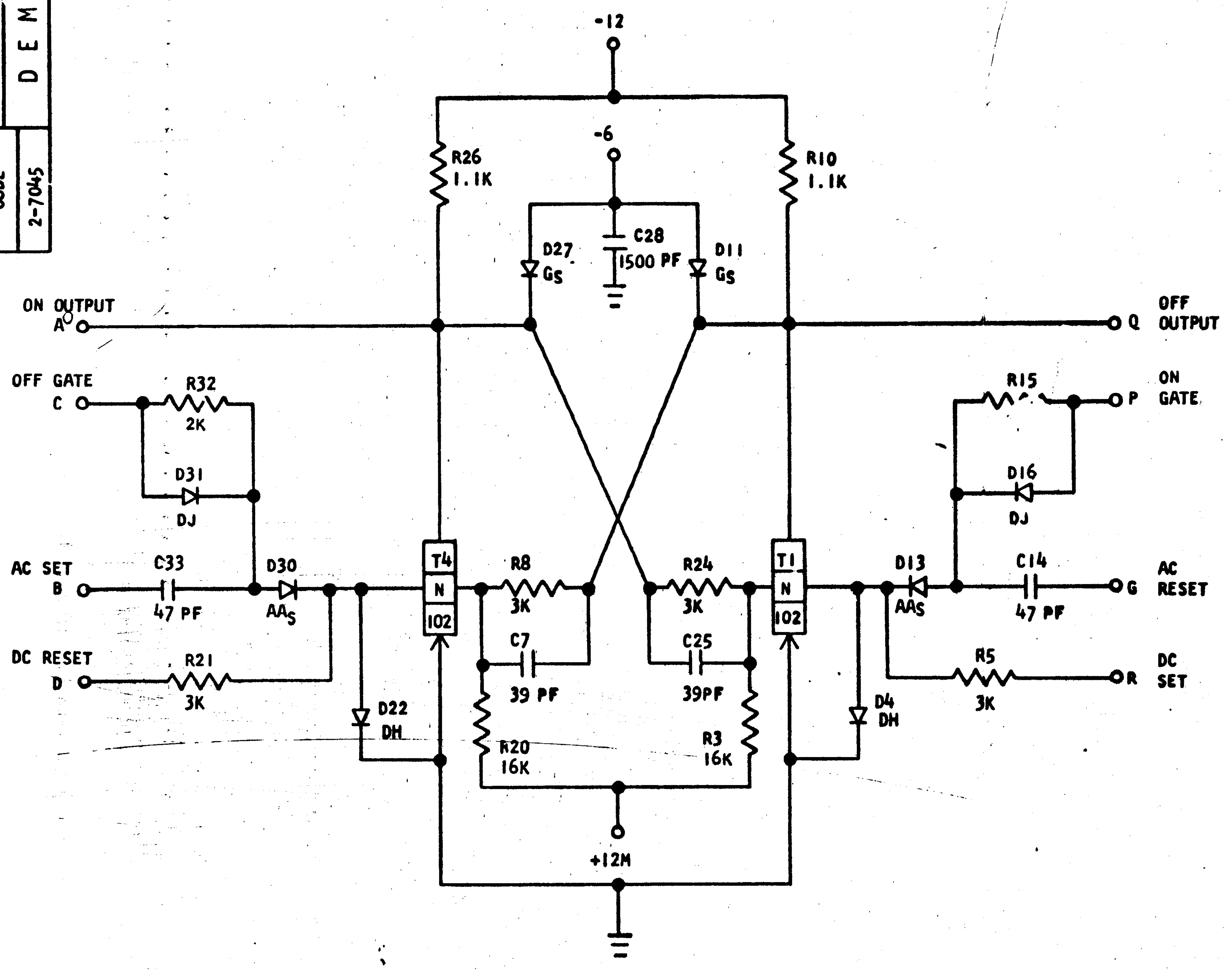
DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
7-13-60	109649	NOTE XVI				X0704B
5-12-61	111245	NOTE XVI				
12-5-61	113104	NOTE XVI				
8-21-6[illegible]	D114375	MDL				
11-1-[illegible]2	114383-D	MDL				

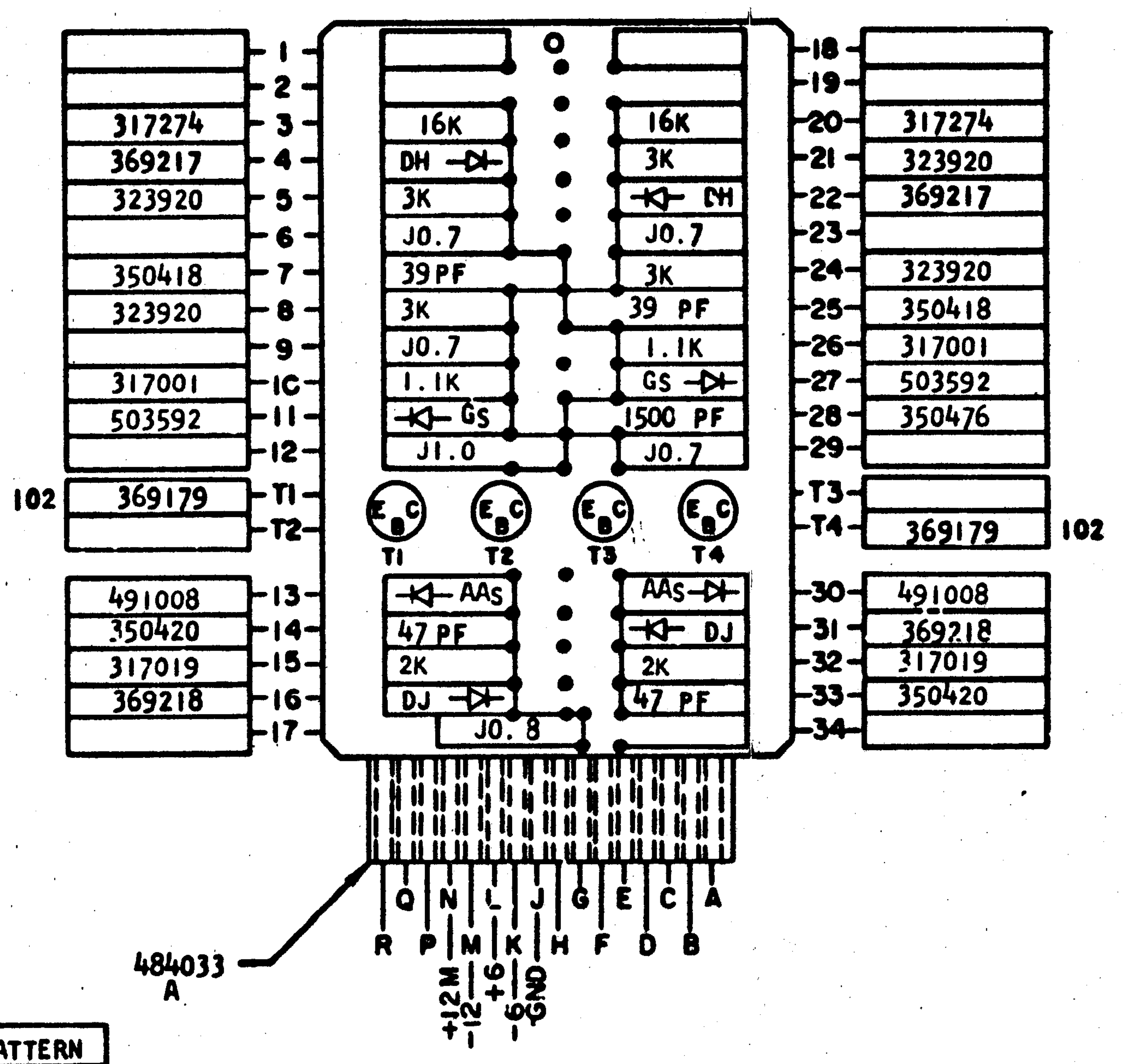
370221

370222

370222	D E M -
STANDARDS CODE	2-7045

SDTDL - TRIGGER





COMPONENT SIDE

NOTES

- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892222
- II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- XIV
- XV
- XVI POSITIONS T1, T4 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. SEE REFERENCE DRAWING 493828. USE TRANSISTOR SPACER 483070 AS REQUIRED

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H D Ha	7-8-60

HOLE PATTERN
491329

INTERNATIONAL BUSINESS-MACHINES CORP.

NAME	CARD ASM TSTR- SDTDL - TRIGGER				
DESIGN			TYPE	SMS	
DETAIL	AP	6-10-60	SCALE	NONE	
CHECK	R.S.H.	7-12-60	DRAW	VE	7-8-60
APPRO	L.E.	7-13-	CHECK		7-?-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
7-14-60	109730	NOTE XV	6-14-62	113946	MDL
10-25-60	110088	NOTE XV			
5-16-61	111246	NOTE XV			
9-21-61	D111386	NOTE XV			
12-5-61	113104	NOTE XV			

DEVELOPMENT NO.
X0752

370222

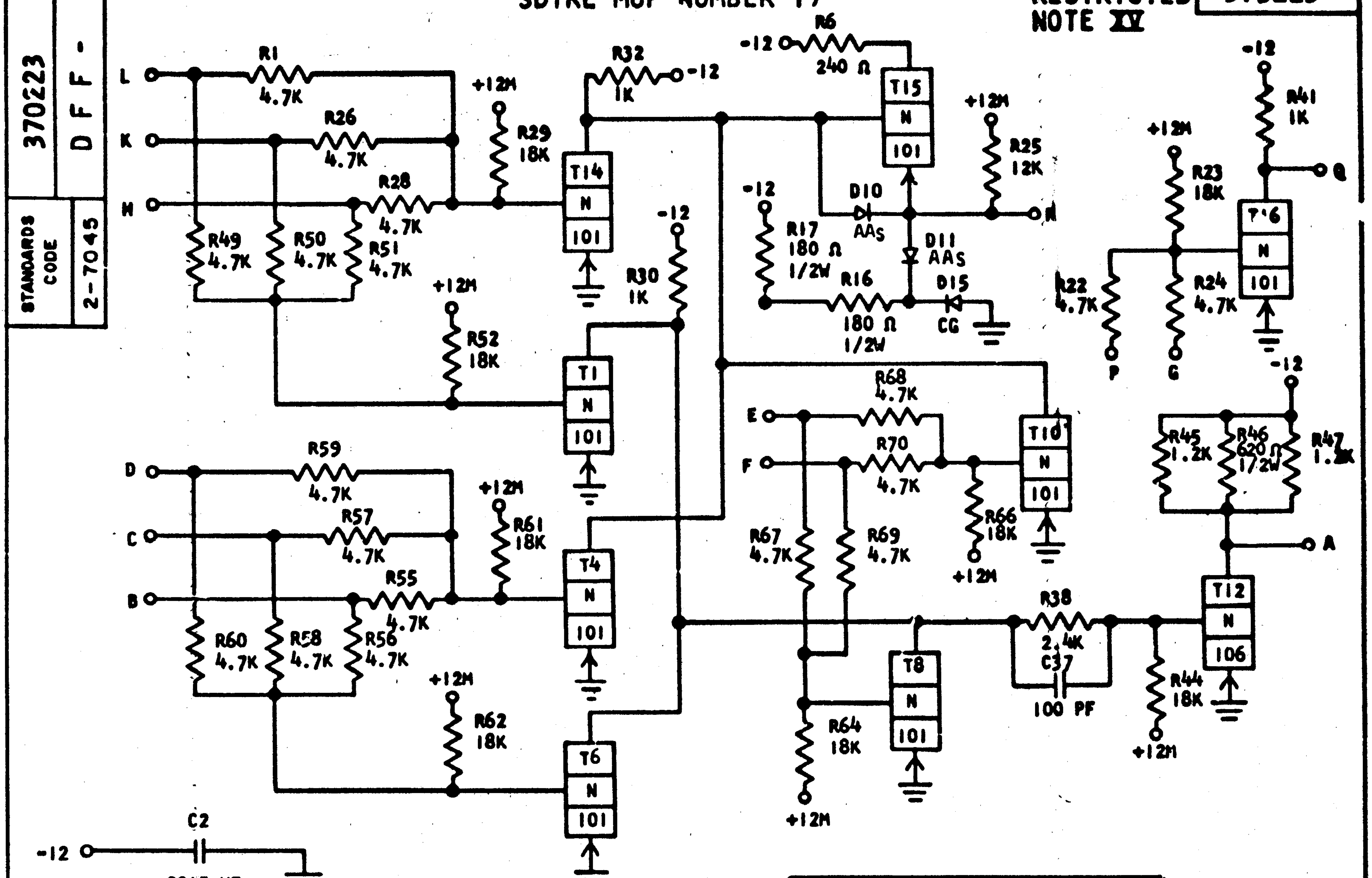
JLM

STANDARDS CODE	2-7045
370223	D F F -

SDTRL MUP NUMBER 17

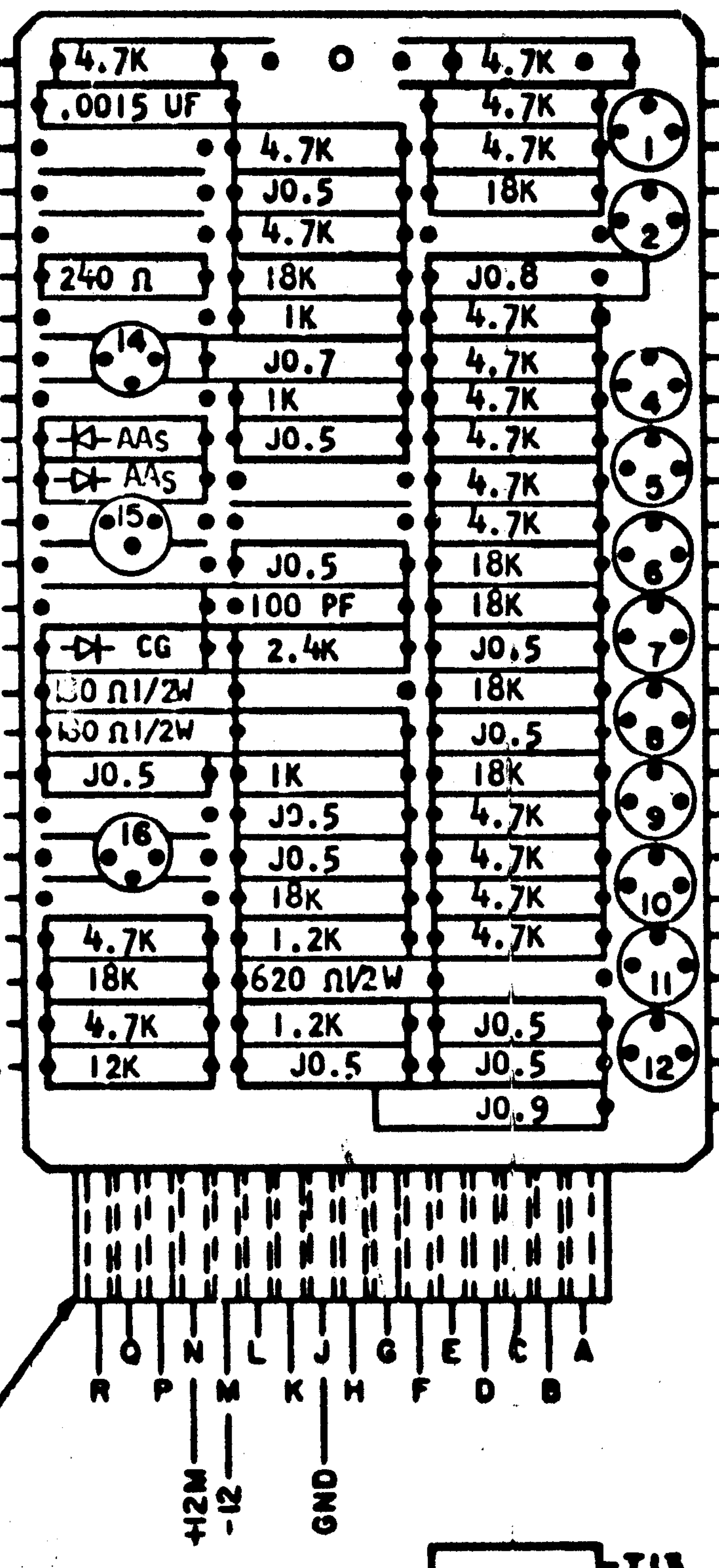
RESTRICTED NOTE XV

370223



		Pin
0.5	216460	1
0.7	491250	2
		3
		4
		5
0.5	550050	6
		7
		8
		9
0.5	491008	10
0.5	491008	11
		12
		13
		14
*0.5	369120	15
0.7	323918	16
0.7	323918	17
		18
		19
		20
		21
0.5	216460	22
0.5	216474	23
0.5	216460	24
0.5	216470	25

Pin			Pin
3	0.5	216460	26
4			27
5	0.5	216460	28
6	0.5	216474	29
7	0.5	216445	30
8			31
9	0.5	216445	32
10			33
11			34
12			35
13			36
14	0.7	350428	37
15	0.5	216454	38
16			39
17			40
18	0.5	216445	41
19			42
20			43
21	0.5	216474	44
22	0.5	216447	45
23	0.7	317013	46
24	0.5	216447	47
25			48



Pin		
49	216460	0.5
50	216460	0.5
51	216460	0.5
52	216474	0.5
53		
54		
55	216460	0.5
56	216460	0.5
57	216460	0.5
58	216460	0.5
59	216460	0.5
60	216460	0.5
61	216474	0.5
62	216474	0.5
63		
64	216474	0.5
65		
66	216474	0.5
67	216460	0.5
68	216460	0.5
69	216460	0.5
70	216460	0.5
71		
72		
73		
74		

NOTES

- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892223
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/4 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV
- *XV TECHNICAL LABORATORY EVALUATION INCOMPLETE. ADDITIONAL USAGE TO BE AVOIDED. THIS PART SUBJECT TO WITHDRAWAL.
- XVI POSITIONS T1, T4, T6, T8, T10, T12, T14, T15, T16 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. SEE REFERENCE DRAWING 493835. USE TRANSISTOR SPACER 483070 AS REQUIRED

T1	369177	101*
T2		
T3		
T4	369177	101*
T5		
T6	369177	101*
T7		
T8	369177	101*
T9		
T10	369177	101*
T11		
T12	369194	106*
T13		
T14	369177	*101
T15	369177	*101
T16	369177	*101

COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD		
APPROVAL	DATE	HOLE PATTERN
HDH GS	7-8-60	493460

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR SDTRL MUP NUMBER 17			
DESIGN			MODEL	SMS 1410
DETAIL	CJB	8-4-60	SCALE	NONE
CHECK	CJB	8-4-60	DRAW	VE 8-29-61
APPRO	BES	8-5-60	CHECK	WJF 8-31-61

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
SEE INDEX CARD			6-14-62	113946	NOTE XV	X0715E
3-3-61	111272	NOTE XV				
5-16-61	112003	NOTE XV				
9-19-61	112133	NOTE XV				
12-12-61	113144	NOTE XV				

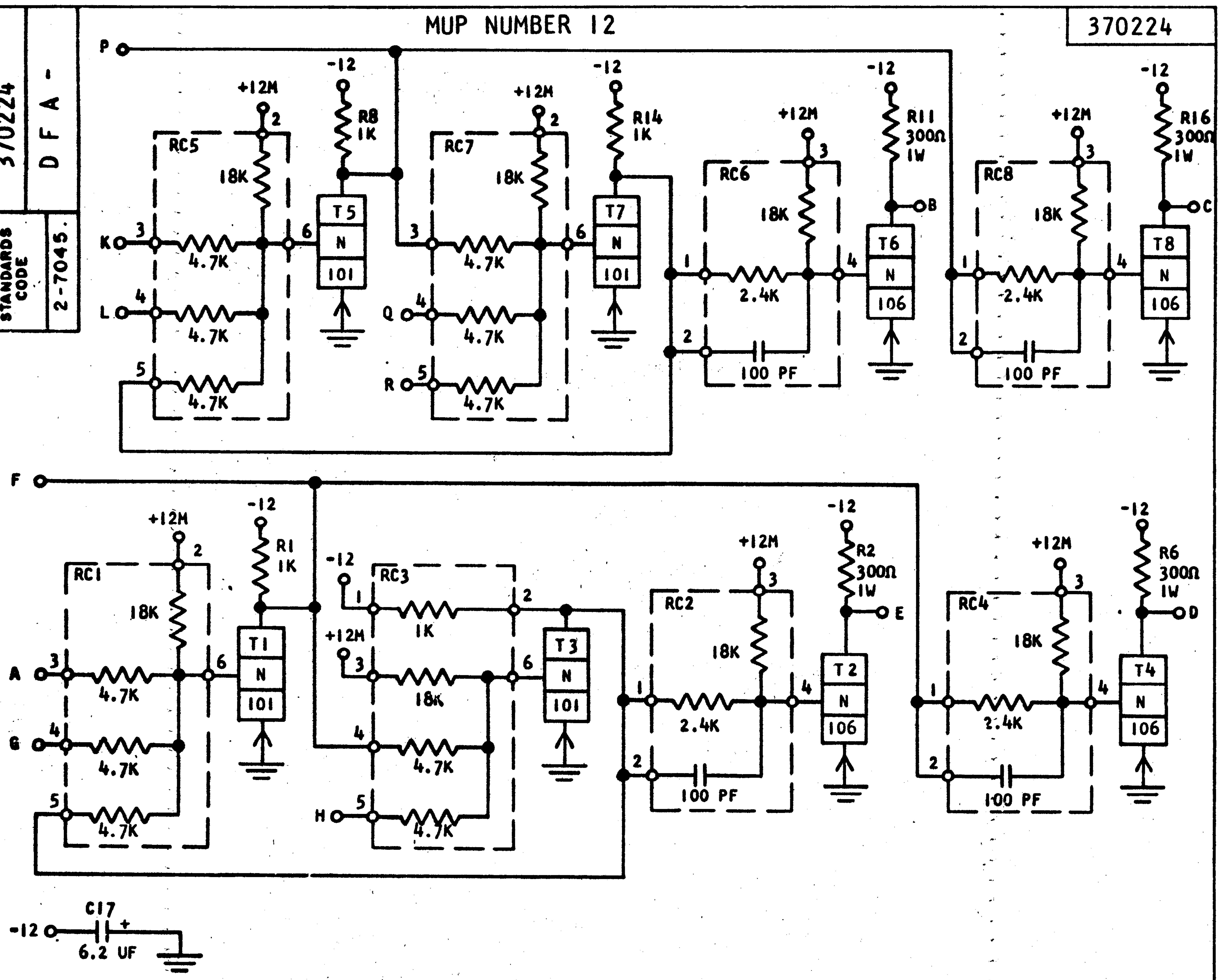
370223

82-4003-1 6-22-61

370224

MUP NUMBER 12

370224	D F A -
STANDARDS CODE	2-7045.



NOTES

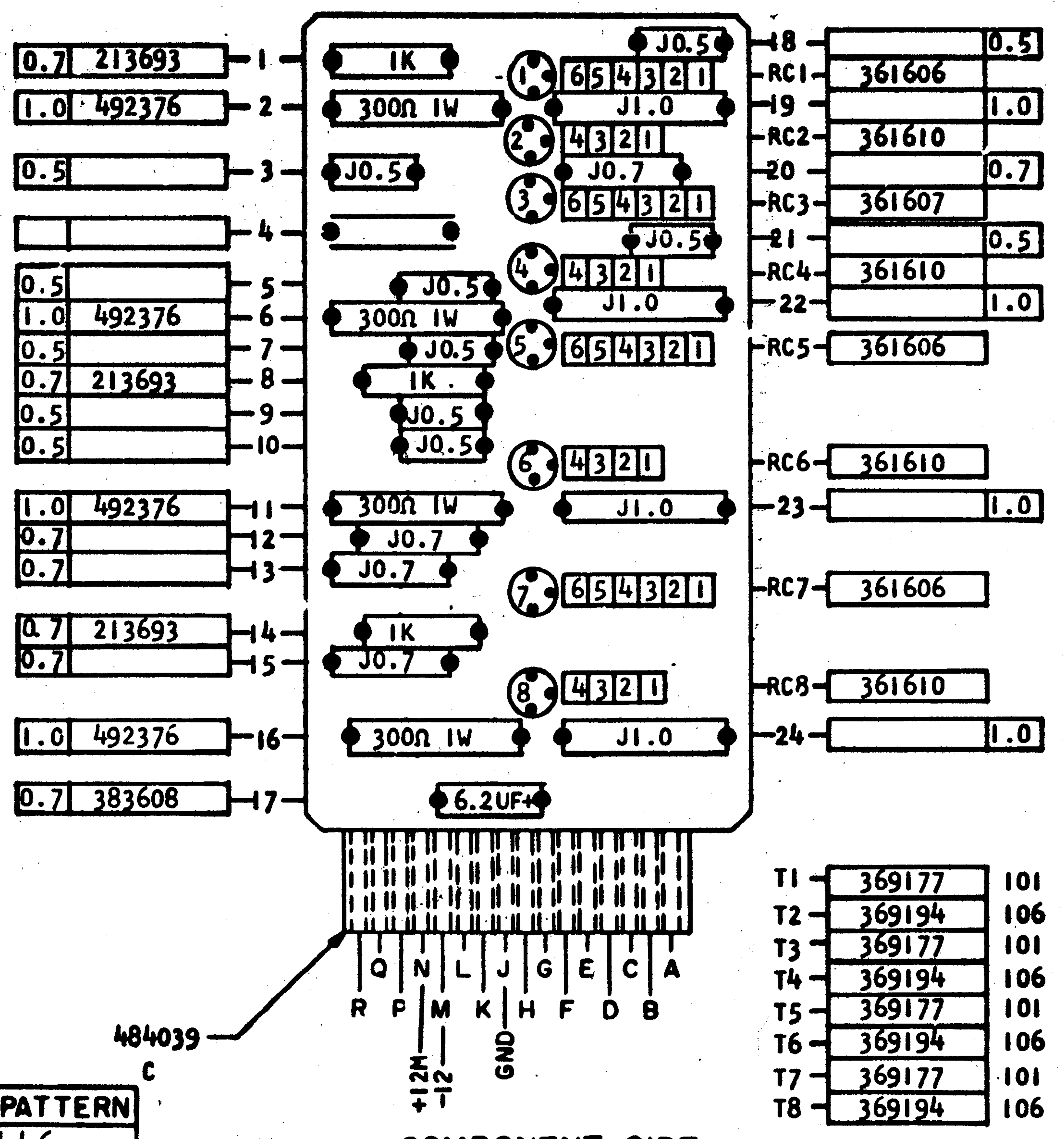
I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892224

II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV POSITIONS T1 THRU T8 ARE TO-18 TRANSISTORS AND WILL BE MOUNTED IN .100 CIRCLE HOLES.



COMPONENT SIDE

B

DPD CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
HDH (GS)	7-8-60

HOLE PATTERN
399446

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- MUP NUMBER 12				
DESIGN			MODEL	SMS	
DETAIL	CJB	8-3-60	SCALE	NONE	
CHECK	CJB	8-4-60	DRAW	LIG	4-30-63
APPRO	BES	8-5-60	CHECK	RJJ	6-4-63

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
SEE INDEX CARD					
9-19-61	112133	NOTE XV			
6-14-62	113946	NOTE XV			
7-12-63	116192	MDL			

DEVELOPMENT NO.
X0720A
CIRCUIT FAMILY
SDTRL

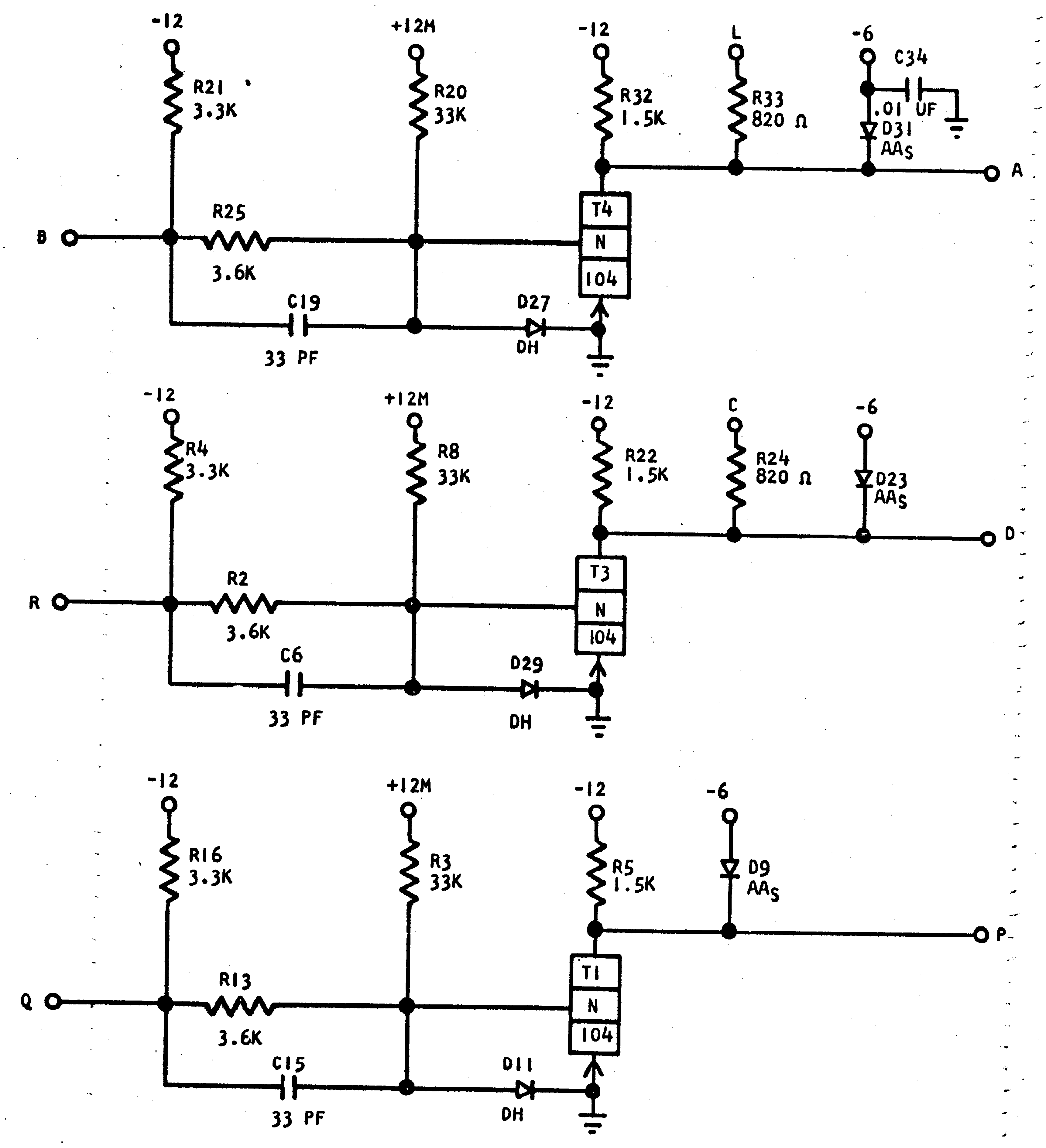
370224

S

370225	DFQ-•
STANDARDS CODE	2-7045

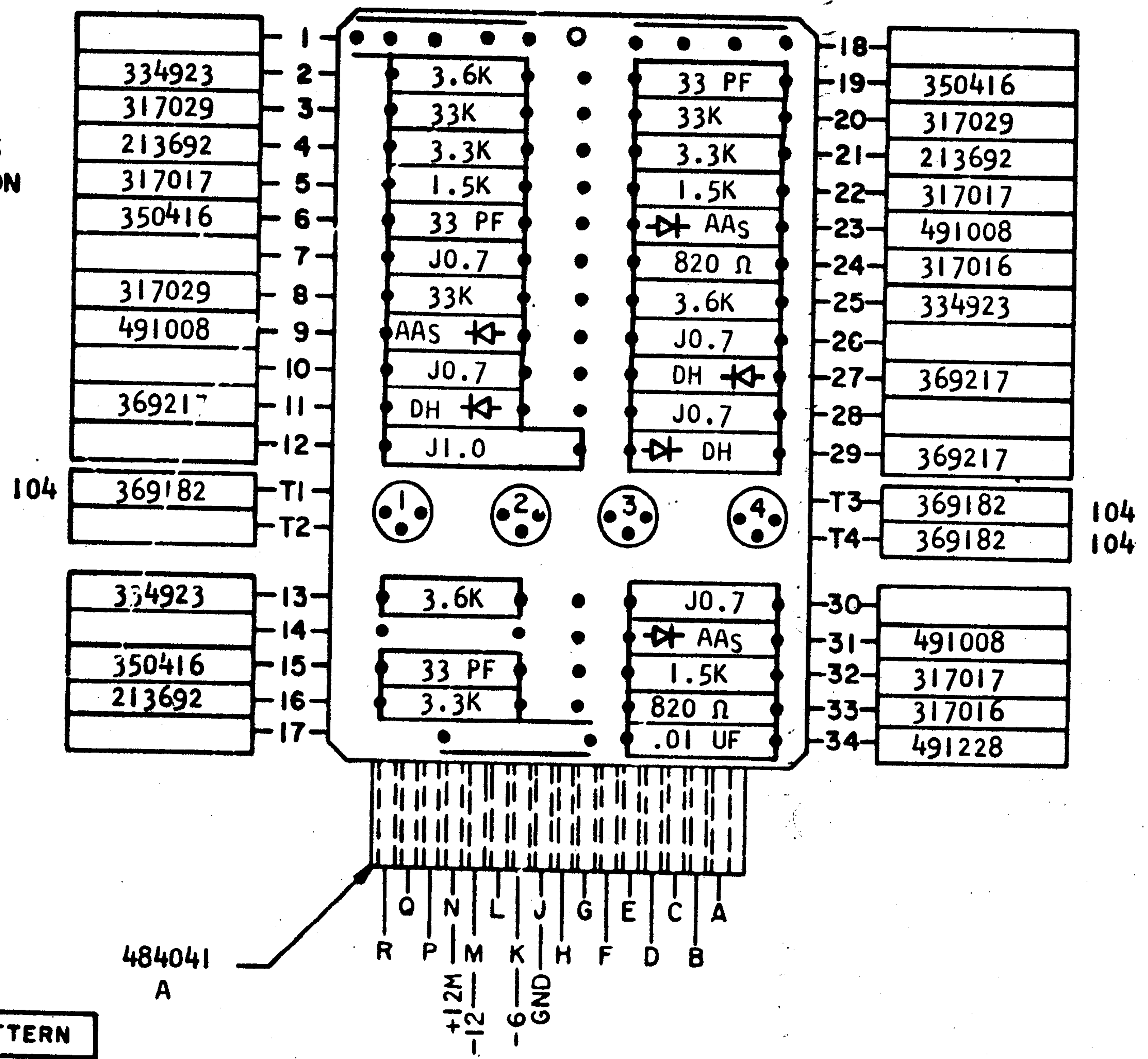
INVERTING POWER DRIVER

370225



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892225
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV REFER TO FIELD SERVICE DRAWING PART NUMBER 729910 WHEN MAKING A CHANGE TO THIS CIRCUIT.
- XV POSITIONS T1, T3 AND T4 ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
HDH (GS)	7-27-60

HOLE PATTERN
491329

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- INVERTING POWER DRIVER				
DESIGN			MODEL	SMS	
DETAIL	AP	5-25-60	SCALE	NONE	
CHECK	CJB	8-4-60	DRAW	LIG	11-26-63
APPRO	BES	8-5-60	CHECK	HDS	12-10-63

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
SEE INDEX CARD					
5-19-61	111804	NOTE XV			
12-4-61	113128	NOTE XV			
12-30-63	119217	GW.S			

DEVELOPMENT NO.
X0731A
CIRCUIT FAMILY
SDTDL

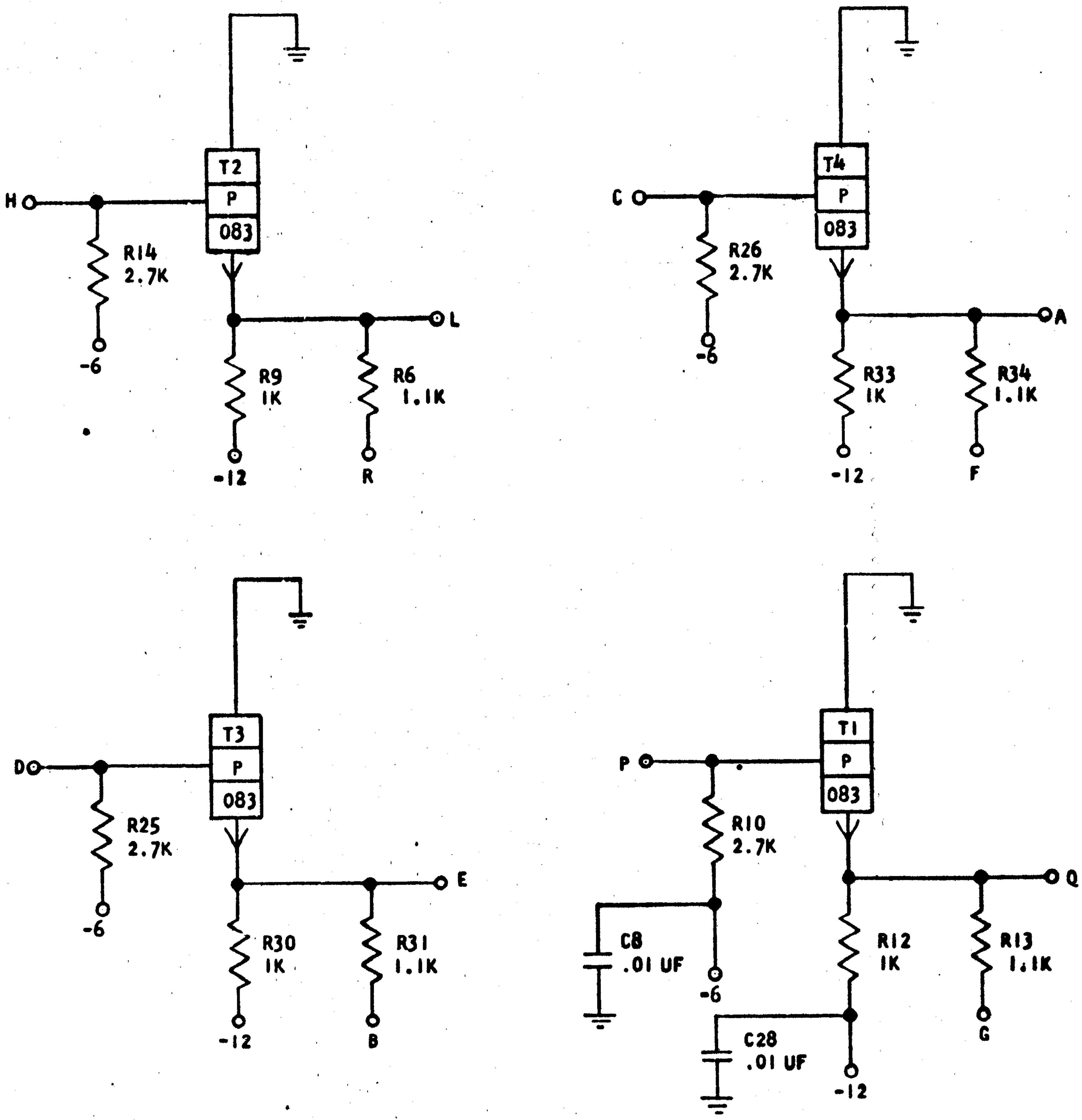
370225

82-3977-1 6-22-61

370226	D F R -
STANDARDS CODE	2-7045

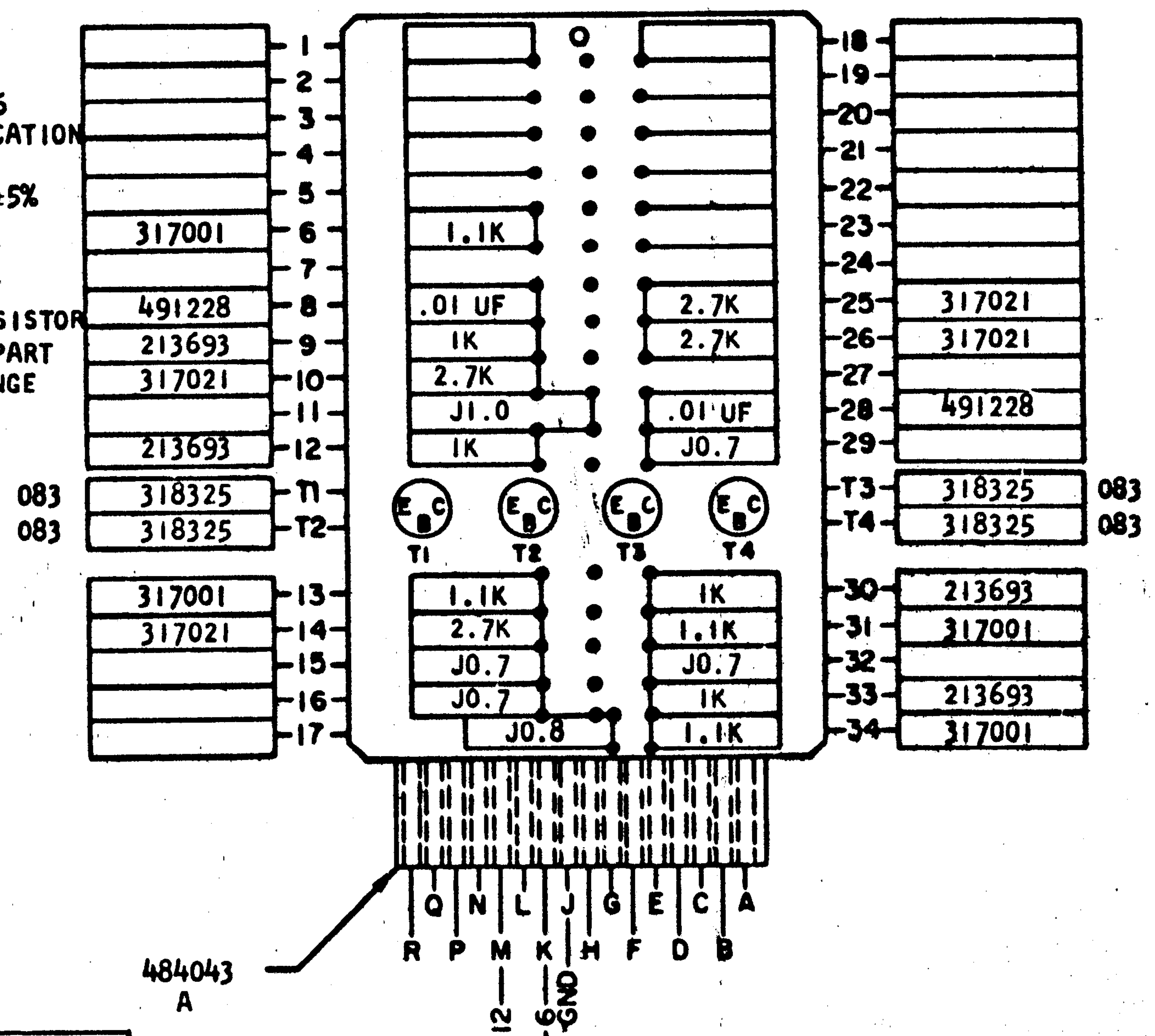
370226

SDTDL NON-INVERTING POWER DRIVER



NOTES

- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892226
- II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- IV -ASSEMBLE WITH JEDEC TRANSISTOR
- V REFER TO FIELD SERVICE DRAWING PART NUMBER 729911 WHEN MAKING A CHANGE TO THIS CIRCUIT.



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
HDH GS	7-27-60

HOLE PATTERN
491329

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR-SDTDL				
NON-INVERTING POWER DRIVER					
DESIGN			TYPE	SMS	
DETAIL	RF	4-29-60	SCALE	NONE	
CHECK	CJB	8-4-60	DRAW	VE	9-14-60
APPRO	BES	8-5-60	CHECK	RCH	9-14-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
8-8-60	109759	IWB			
10-6-60	110067	JWB			
10-28-60	110184	IWB			
4-18-62	113150	LHR			

DEVELOPMENT NO.
X0751A

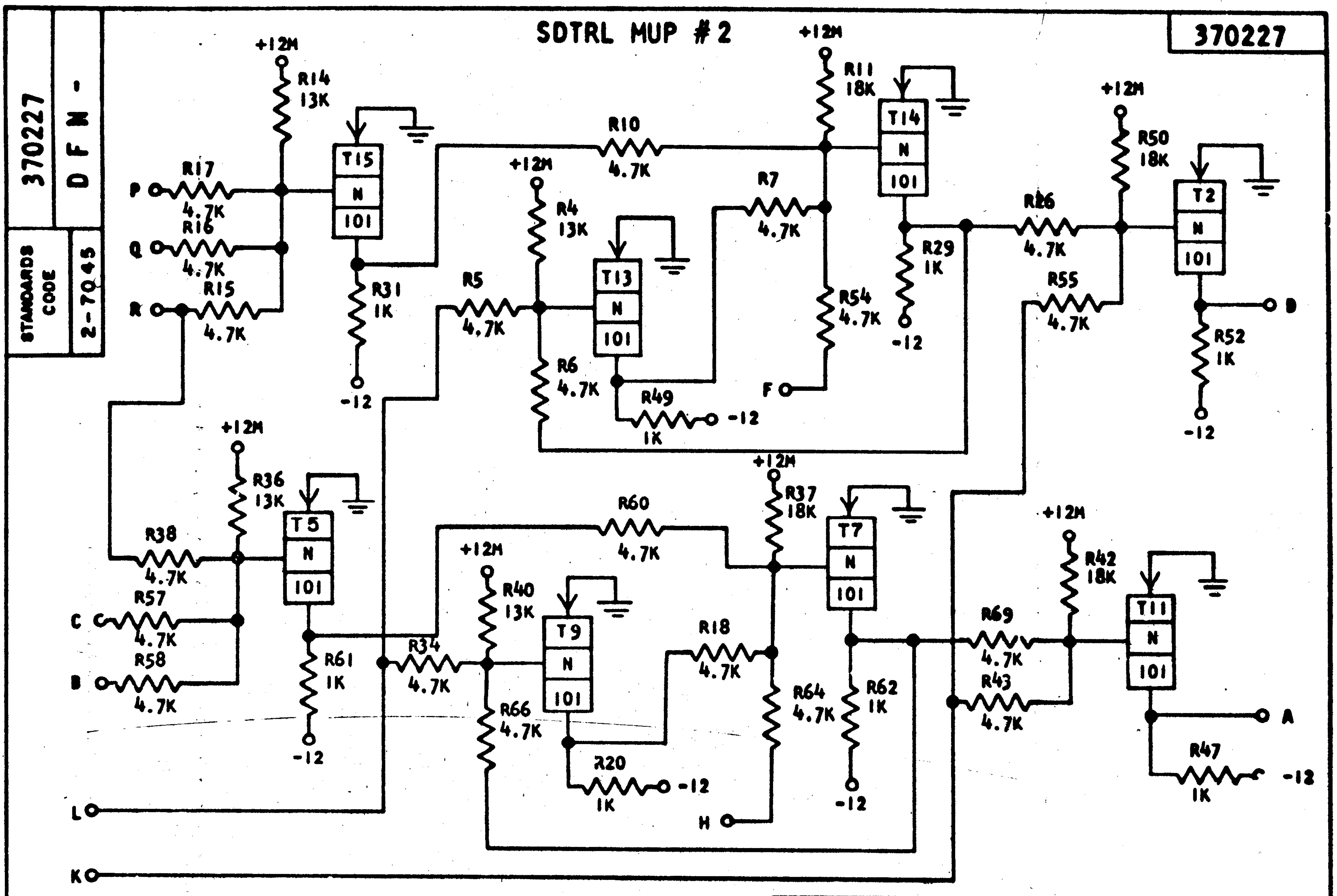
370226

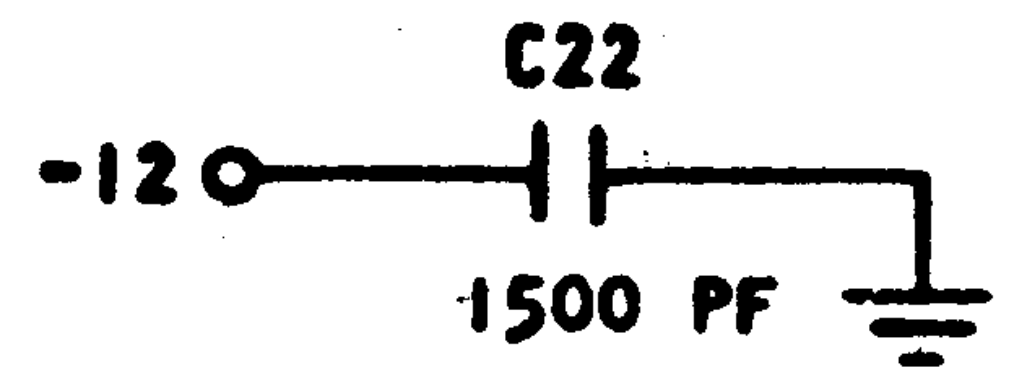
82- 3977 8-24-60

370227	D F N -
STANDARDS CODE	2-7045

SDTRL MUP #2

370227



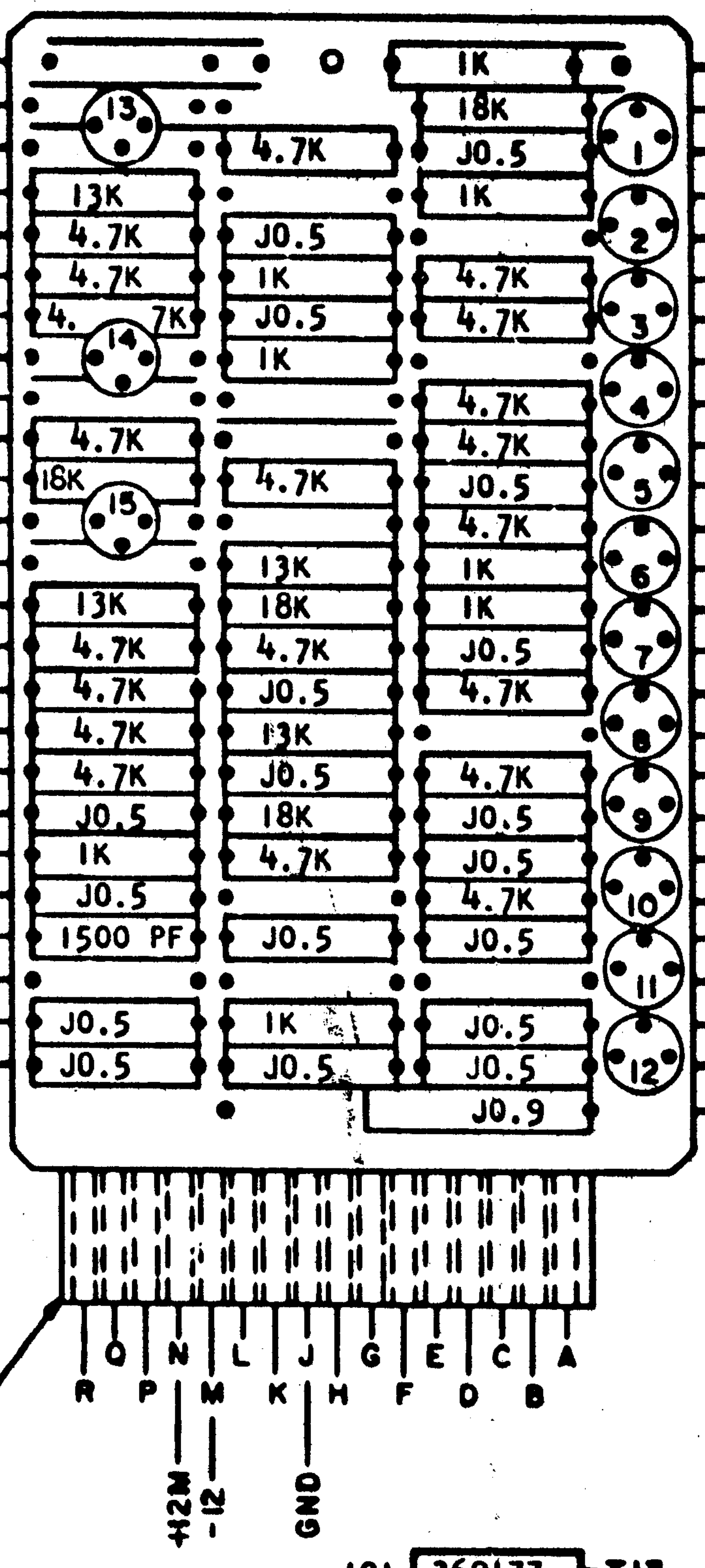


NOTES

- Ⅹ CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892227
- ⅩⅠ ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- ⅩⅡ ALL RESISTORS ARE 1/4 WATT AND ±5% UNLESS OTHERWISE NOTED
- ⅩⅢ "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- ⅩⅣ
- ⅩⅤ
- ⅩⅥ POSITIONS T2,T5,T7,T9,T11, T13,T14,T15 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING.

		1
		2
		3
0.5	216471	4
0.5	216460	5
0.5	216460	6
0.5	216460	7
		8
		9
0.5	216460	10
0.5	216474	11
		12
		13
0.5	216471	14
0.5	216460	15
0.5	216460	16
0.5	216460	17
0.5	216460	18
		19
0.5	216445	20
		21
0.5	350476	22
		23
		24
		25

3	0.5	216460	26
4			27
5			28
6	0.5	216445	29
7			30
8	0.5	216445	31
9			32
10			33
11	0.5	216460	34
12			35
13	0.5	216471	36
14	0.5	216474	37
15	0.5	216460	38
16			39
17	0.5	216471	40
18			41
19	0.5	216474	42
20	0.5	216460	43
21			44
22			45
23			46
24	0.5	216445	47
25			48



484045
B

49	216445	0.5	
50	216474	0.5	
51			
52	216445	0.5	
53			
54	216460	0.5	
55	216460	0.5	
56			
57	216460	0.5	
58	216460	0.5	
59			
60	216460	0.5	
61	216445	0.5	
62	216445	0.5	
63			
64	216460	0.5	
65			
66	216460	0.5	
67			
68			
69	216460	0.5	
70			
71			
72			
73			
74			

T1		
T2	369177	101
T3		
T4		
T5	369177	101
T6		
T7	369177	101
T8		
T9	369177	101
T10		
T11	369177	101
T12		

101	369177	T13
101	369177	T14
101	369177	T15
		T16

B

COMPONENT SIDE

CIRCUIT AND PACKAGING STANDARD		
APPROVAL	DATE	HOLE PATTERN
HDH GS	7-15-60	493460

INTERNATIONAL BUSINESS MACHINES CORP.				
NAME	CARD ASM TSTR SDTRL			
	MUP #2			
DESIGN			MODEL	SMS 1410
DETAIL	CJB	8-4-60	SCALE	NONE
CHECK	CJB	8-4-60	DRAW	VE 8-23-61
APPRO	BES	8-8-60	CHECK	WJF 8-31-61

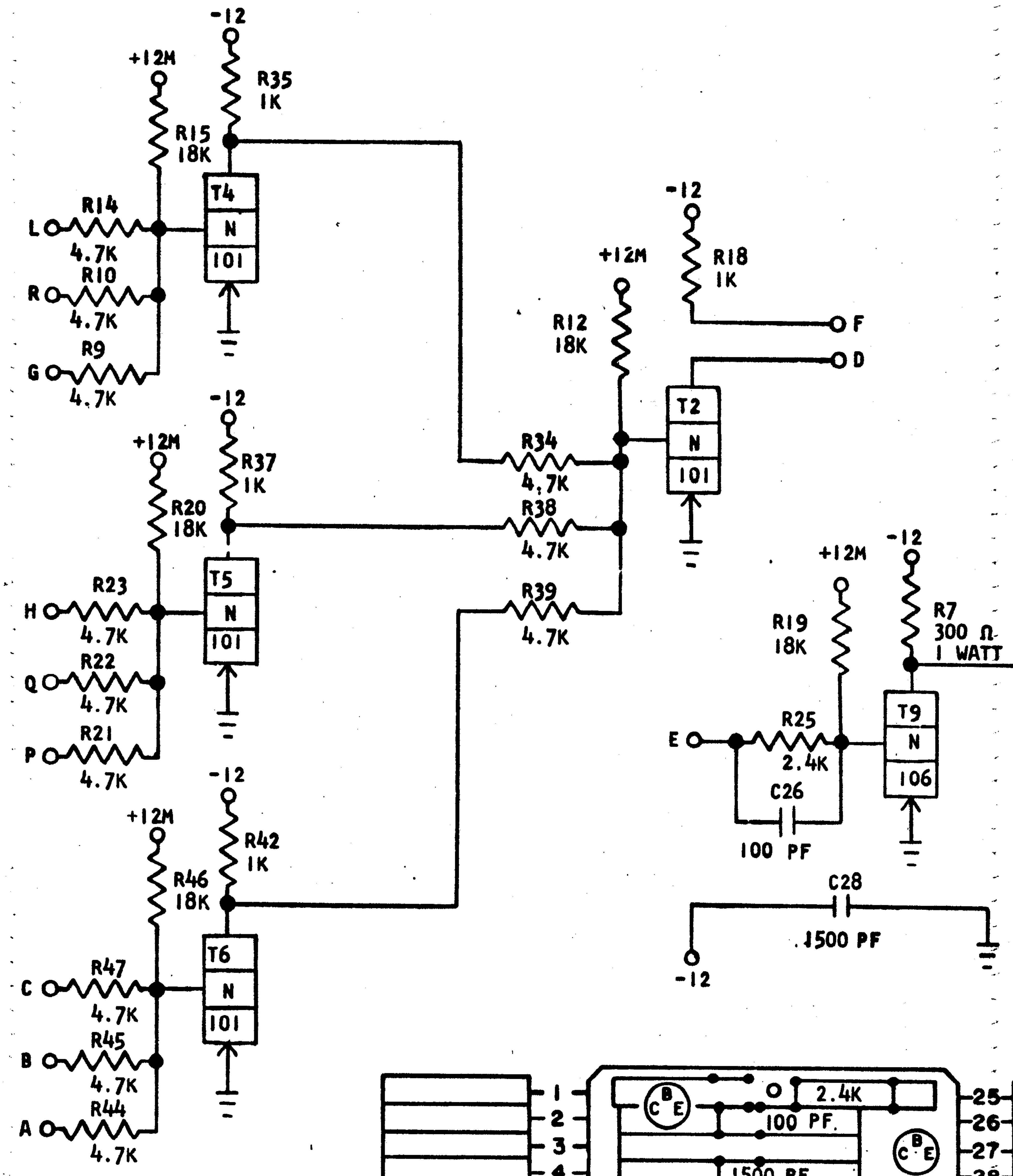
82-4003-1 6-22-61

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
SEE INDEX CARD			11-21-62	113625	MDL	X0674
4-11-61	111566	NOTE ⅩⅤ				
5-3-61	111803	NOTE ⅩⅤ				
9-19-61	112133	NOTE ⅩⅤ				
6-7-62	113941	NOTE ⅩⅤ				

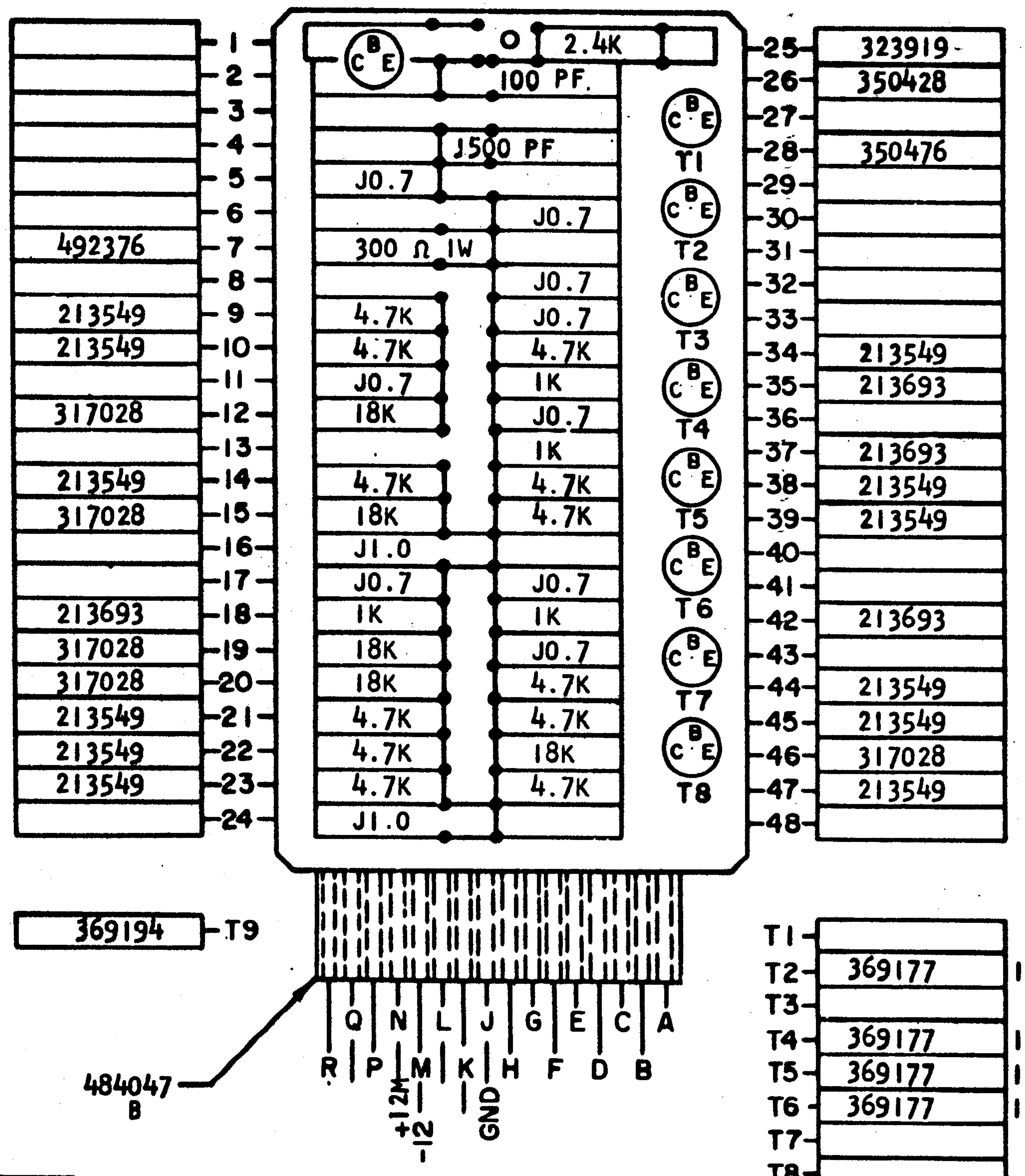
370227

370228
D F P -
STANDARDS CODE 2-7045

SDTRL MUP NUMBER 20



NOTES
I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892228
II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
XIV
XV
XVI
XVII POSITIONS T2,T4,T5,T6,T9 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. SEE REFERENCE DRAWING 493839. USE TRANSISTOR SPACER 483070 AS REQUIRED



	1
	2
	3
	4
	5
	6
492376	7
	8
213549	9
213549	10
	11
317028	12
	13
213549	14
317028	15
	16
	17
213693	18
317028	19
317028	20
213549	21
213549	22
213549	23
	24

25	323919
26	350428
27	
28	350476
29	
30	
31	
32	
33	
34	213549
35	213693
36	
37	213693
38	213549
39	213549
40	
41	
42	213693
43	
44	213549
45	213549
46	317028
47	213549
48	

106	369194	T9	

T1		
T2	369177	101
T3		
T4	369177	101
T5	369177	101
T6	369177	101
T7		
T8		

COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H. D. Hanford	7-15-60

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- SDTRL MUP NUMBER 20			
DESIGN			TYPE	SMS
DETAIL	A.P.	6-15-60	SCALE	NONE
CHECK	CB	8-9-60	DRAW	MDE 7-25-60
APPRO	BES	8-10-60	CHECK	7-27-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
8-11-60	109763	NOTE XVI			
10-5-60	110091	NOTE XVI			
5-16-61	112003	NOTE XVI			
6-14-62	113946	NOTE XVI			
4-23-64	D121009	GWS			

DEVELOPMENT NO.
X0681A

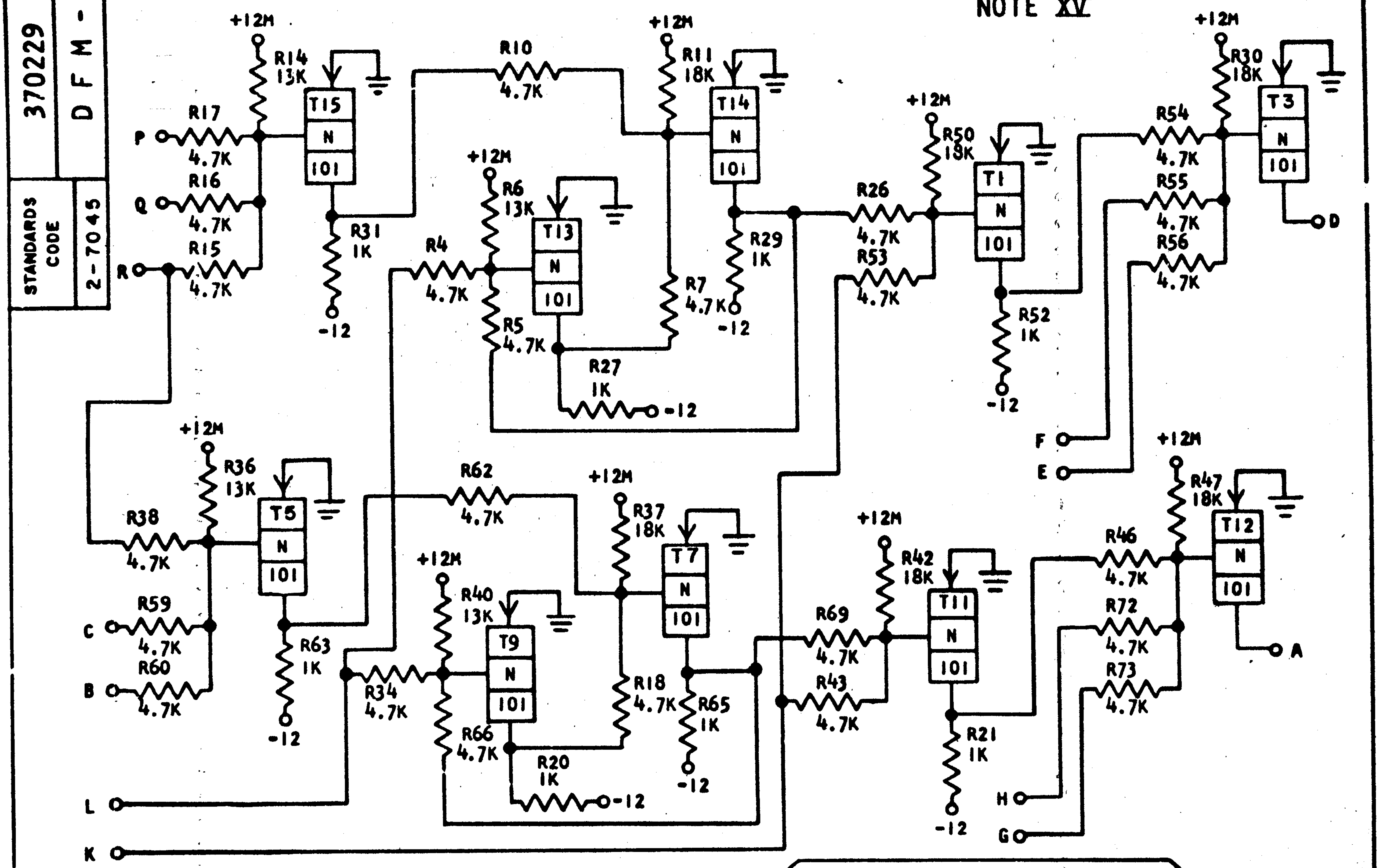
370228

370229	D F M -
STANDARDS CODE	2-7045

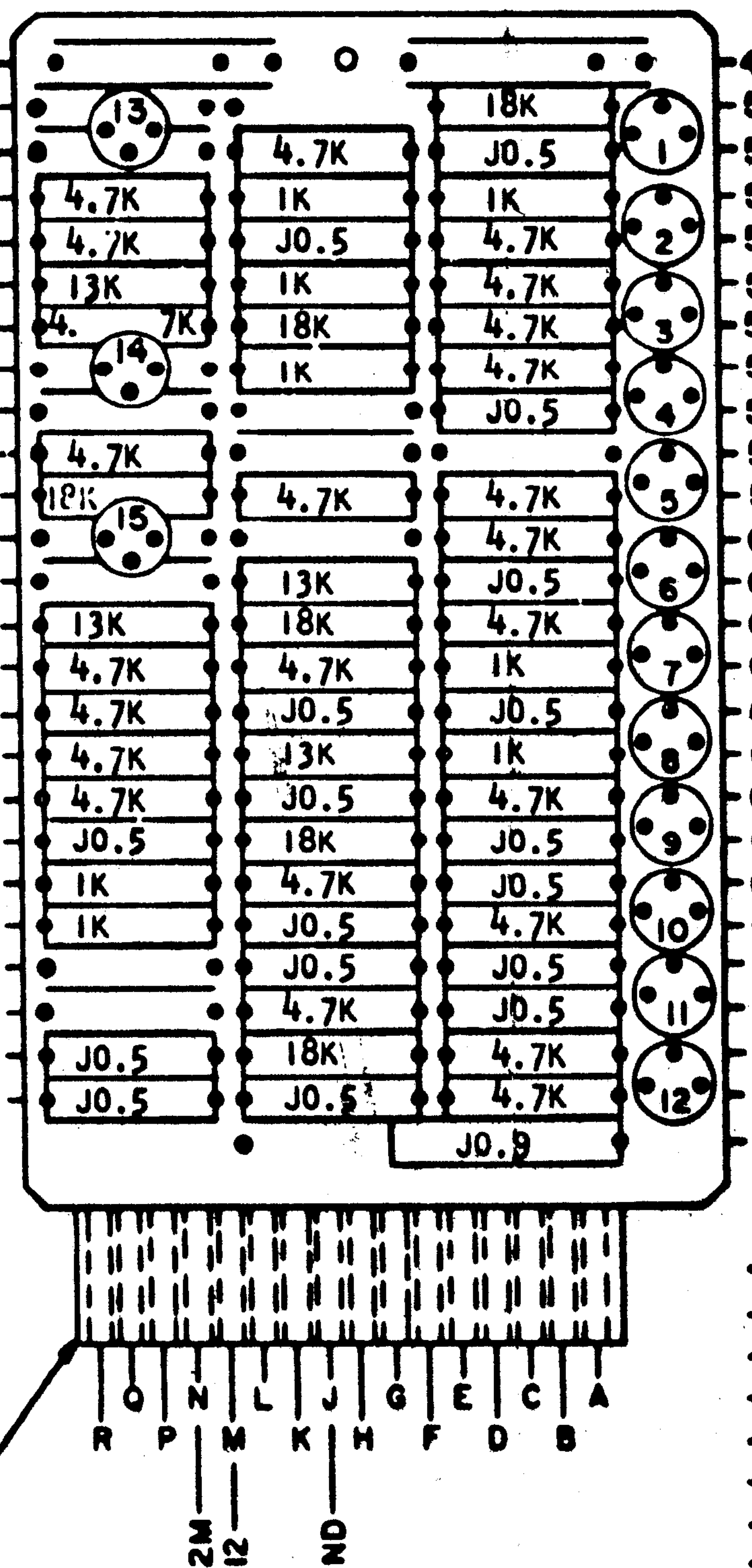
SDTRL MUP #1

RESTRICTED
NOTE XV

370229



		Pin			Pin
		1			
		2			
		3	0.5	216460	26
0.5	216460	4	0.5	216445	27
0.5	216460	5			28
0.5	216471	6	0.5	216445	29
0.5	216460	7	0.5	216474	30
		8	0.5	216445	31
		9			32
0.5	216460	10			33
0.5	216474	11	0.5	216460	34
		12			35
		13	0.5	216471	36
0.5	216471	14	0.5	216474	37
0.5	216460	15	0.5	216460	38
0.5	216460	16			39
0.5	216460	17	0.5	216471	40
0.5	216460	18			41
		19	0.5	216474	42
0.5	216445	20	0.5	216460	43
0.5	216445	21			44
		22			45
		23	0.5	216460	46
		24	0.5	216474	47
		25			48



Pin		
49		
50	216474	0.5
51		
52	216445	0.5
53	216460	0.5
54	216460	0.5
55	216460	0.5
56	216460	0.5
57		
58		
59	216460	0.5
60	216460	0.5
61		
62	216460	0.5
63	216445	0.5
64		
65	216445	0.5
66	216460	0.5
67		
68		
69	216460	0.5
70		
71		
72	216460	0.5
73	216460	0.5
74		

NOTES

- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892229
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/4 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV
- *XV TECHNICAL LABORATORY EVALUATION INCOMPLETE. ADDITIONAL USAGE TO BE AVOIDED. THIS PART SUBJECT TO WITHDRAWAL.
- XVI POSITIONS T1, T3, T5, T7, T9, T11, T12, T13, T14, T15 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. SEE REFERENCE DRAWING 493816. USE TRANSISTOR SPACER 483070 AS REQUIRED.

Position	Part	
T1	369177	101*
T2		
T3	369177	101*
T4		
T5	369177	101*
T6		
T7	369177	101*
T8		
T9	369177	101*
T10		
T11	369177	101*
T12	369177	101*

	Part	Position
*101	369177	T13
*101	369177	T14
*101	369177	T15
		T16

COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD		
APPROVAL	DATE	HOLE PATTERN
HDH GS	7-15-60	493460

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR SDTRL			
	MUP #1			
DESIGN			MODEL	SMS 1410
DETAIL	CJB	8-4-60	SCALE	NONE
CHECK	CJB	8-4-60	DRAW	VE 6-23-[illegible]
APPRO	DES	8-8-60	CHECK	WJW [illegible]

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
SEE INDEX CARD					
4-11-61	111565	NOTE XV			
5-3-61	111C93	NOTE XV			
9-19-61	112133	NOTE XV			
6-7-62	113941	NOTE XV			

DEVELOPMENT NO.
X0675

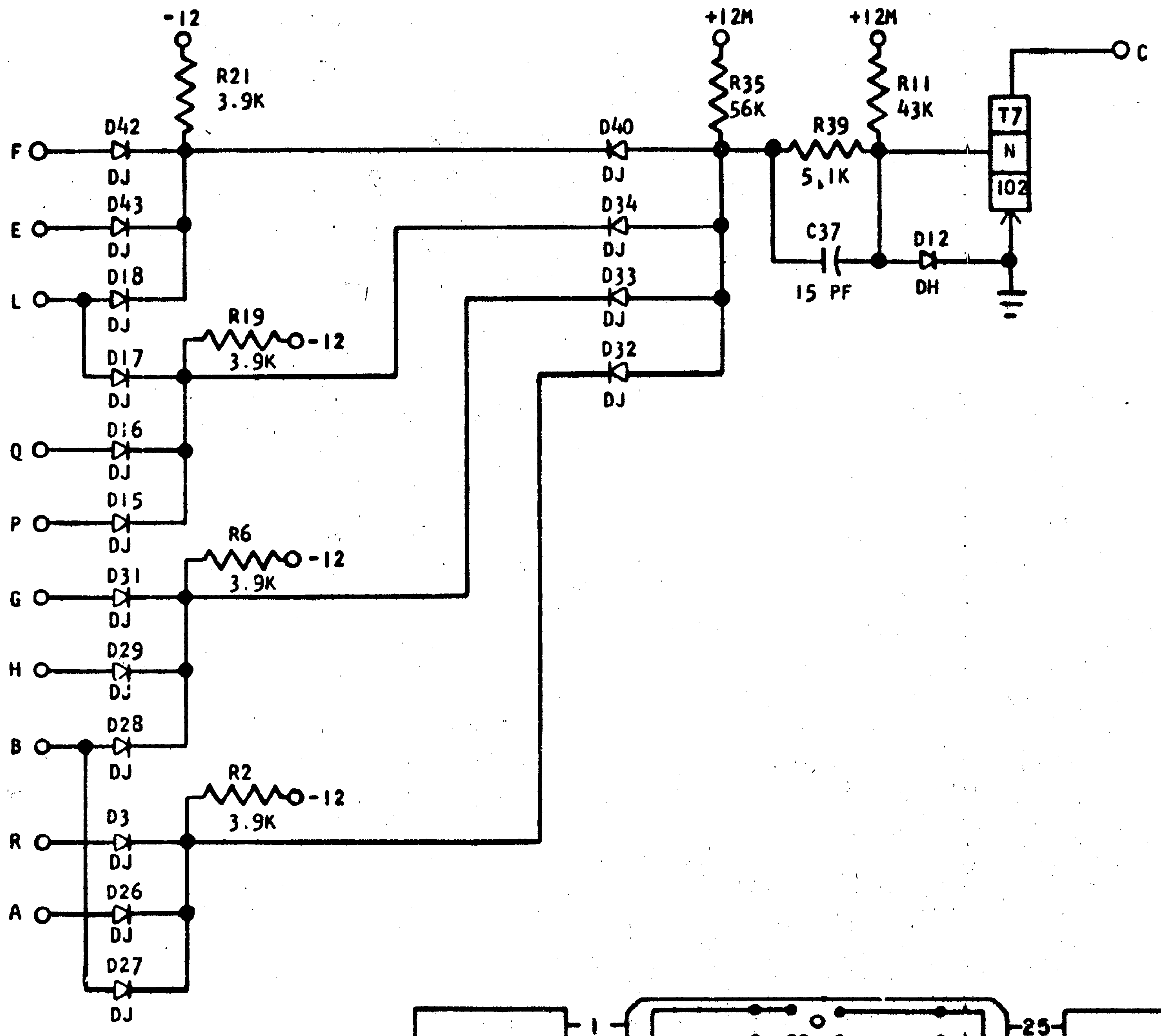
370229

82-4003-1 6-22-61

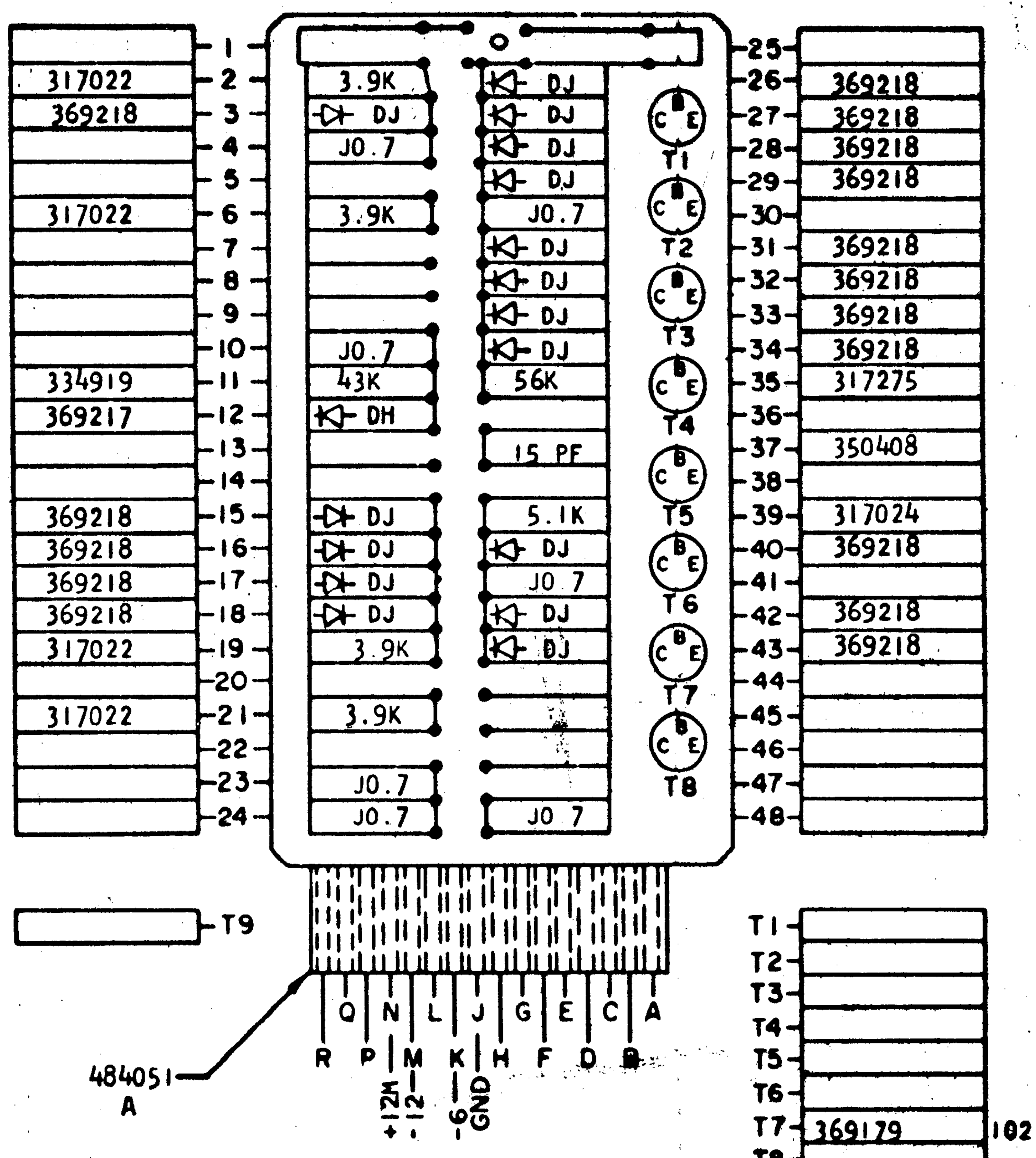
370230	D F L -
STANDARDS CODE	2-7045

370230

SDTDL MUP #2



NOTES
- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892230
- II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- XIV
- XV
- XVI
- o
- XVII POSITION T7 IS A TO-18 TRANSISTOR AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. SEE REFERENCE DRAWING 493902. USE TRANSISTOR SPACER 483070 AS REQUIRED



B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H. D. Hs. f.	7-8-60

HOLE PATTERN
493457

COMPONENT SIDE

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- SDTDL MUP #2			
DESIGN			TYPE	SMS 1410
DETAIL	CJB	8-3-60	SCALE	NONE
CHECK	CJB	8-4-60	DRAW	MDE 7-22-60
APPRO	CFS	8-8-60	CHECK	7-29-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO	APPROVAL
8-8-60	109755	NOTE XVI			
5-16-61	111243	NOTE XVI			
7-7-61	REDRAWN				
12-4-61	112747	NOTE XVI			
6-14-62	113946	MDL			

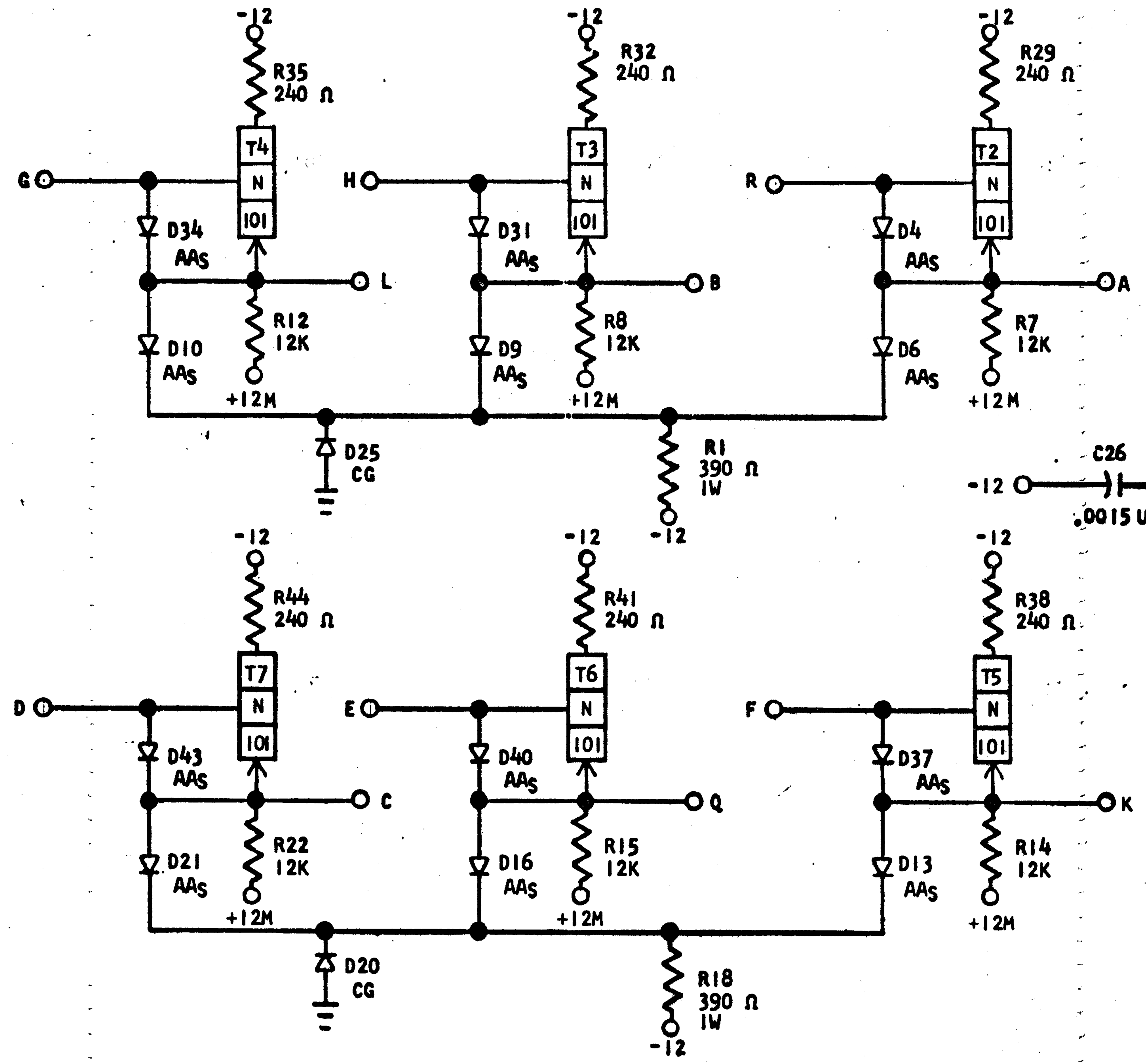
DEVELOPMENT NO.
X0709D

370230

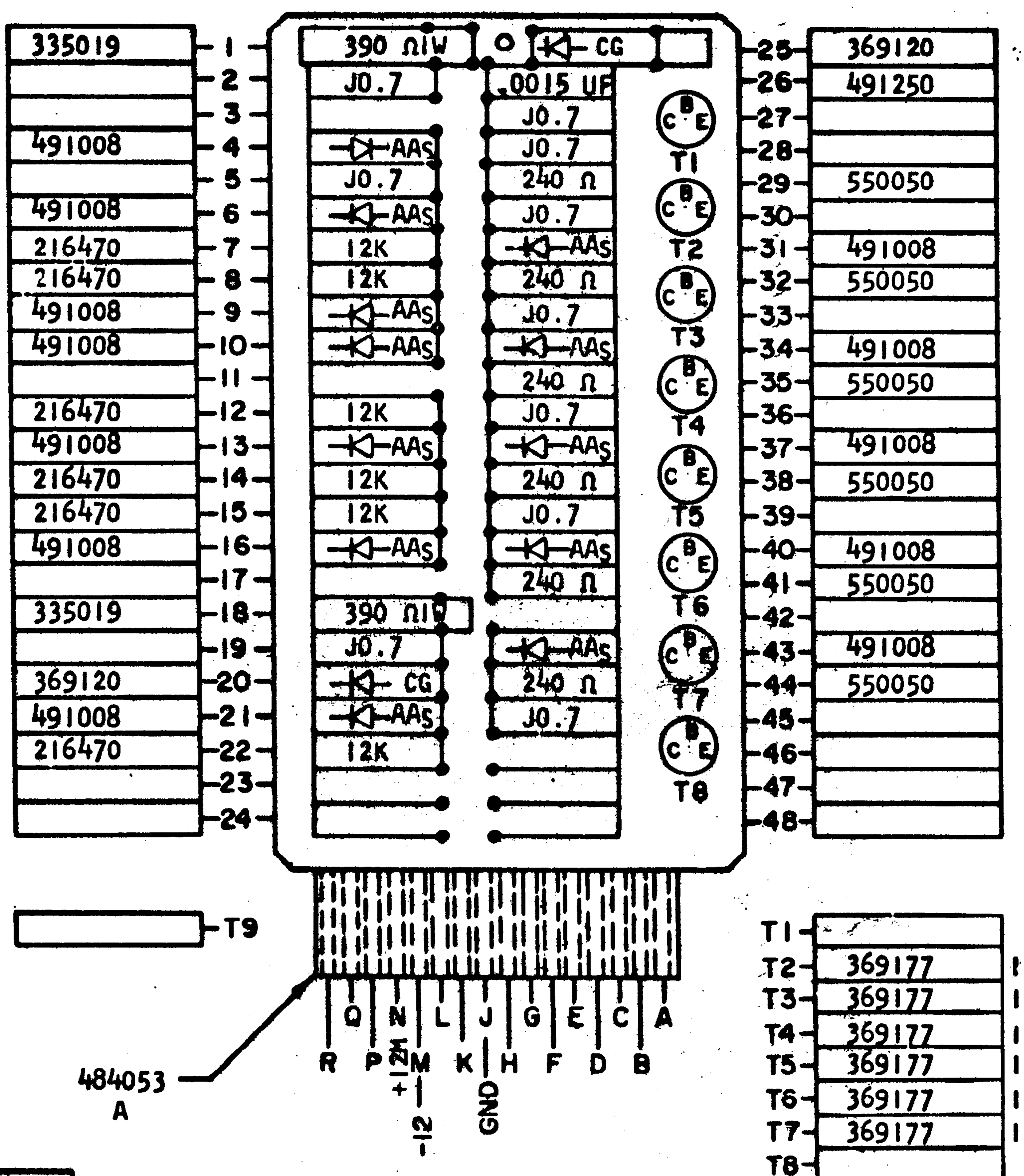
370231	D F K -
STANDARDS CODE	2-7045

370231

SDTRL-DRIVER LOW POWER NON-INVERTING



NOTES
- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892082
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/4 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- XIV
- XV
- XVI
- XVII POSITIONS T2,T3,T4,T5,T6,T7, ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING.



1	335019
2	
3	
4	491008
5	
6	491008
7	216470
8	216470
9	491008
10	491008
11	
12	216470
13	491008
14	216470
15	216470
16	491008
17	
18	335019
19	
20	369120
21	491008
22	216470
23	
24	

25	369120
26	491250
27	
28	
29	550050
30	
31	491008
32	550050
33	
34	491008
35	550050
36	
37	491008
38	550050
39	
40	491008
41	550050
42	
43	491008
44	550050
45	
46	
47	
48	

T1		
T2	369177	101
T3	369177	101
T4	369177	101
T5	369177	101
T6	369177	101
T7	369177	101
T8		

COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H. D. Hanford	7-15-60

HOLE PATTERN
493457

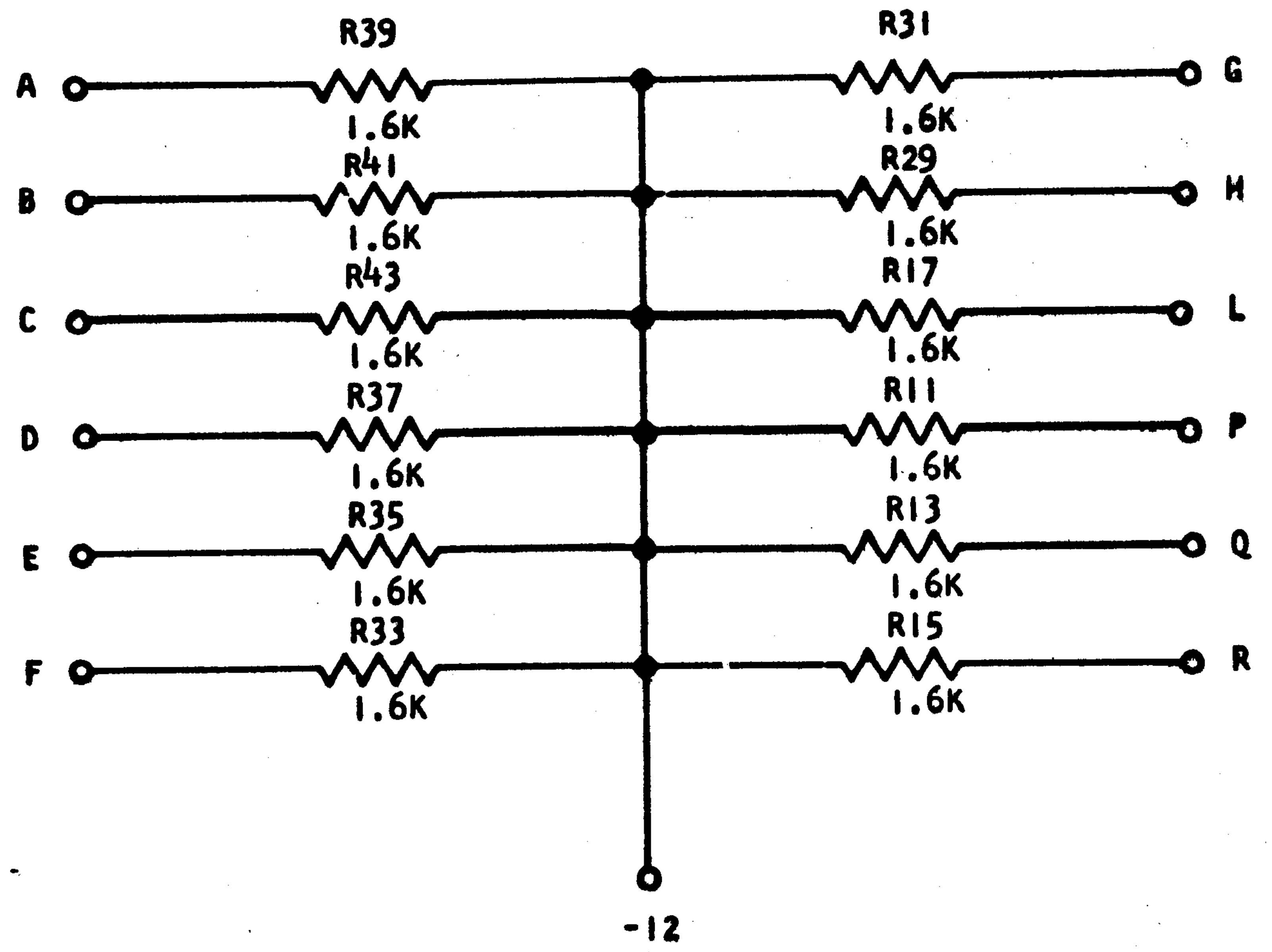
INTERNATIONAL BUSINESS MACHINES CORP.					DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME	CARD ASM TSTR- SDTRL DRIVER LOW POWER NON-INVERTING				8-11-60	109763	NOTE XVI	2-24-64	D119304	GWS	X0707C
DESIGN			TYPE	SMS	3-9-61	111390	NOTE XVI				
DETAIL	CB	8-9-60	SCALE	NONE	5-5-61	111814	NOTE XVI				
CHECK	CB	8-9-60	DRAW	MDE 7-22-60	12-4-61	113128	NOTE XVI				
APPRO	BES	8-10-60	CHECK	9-2-60	6-7-62	113941	NOTE XVI				

370231

370232

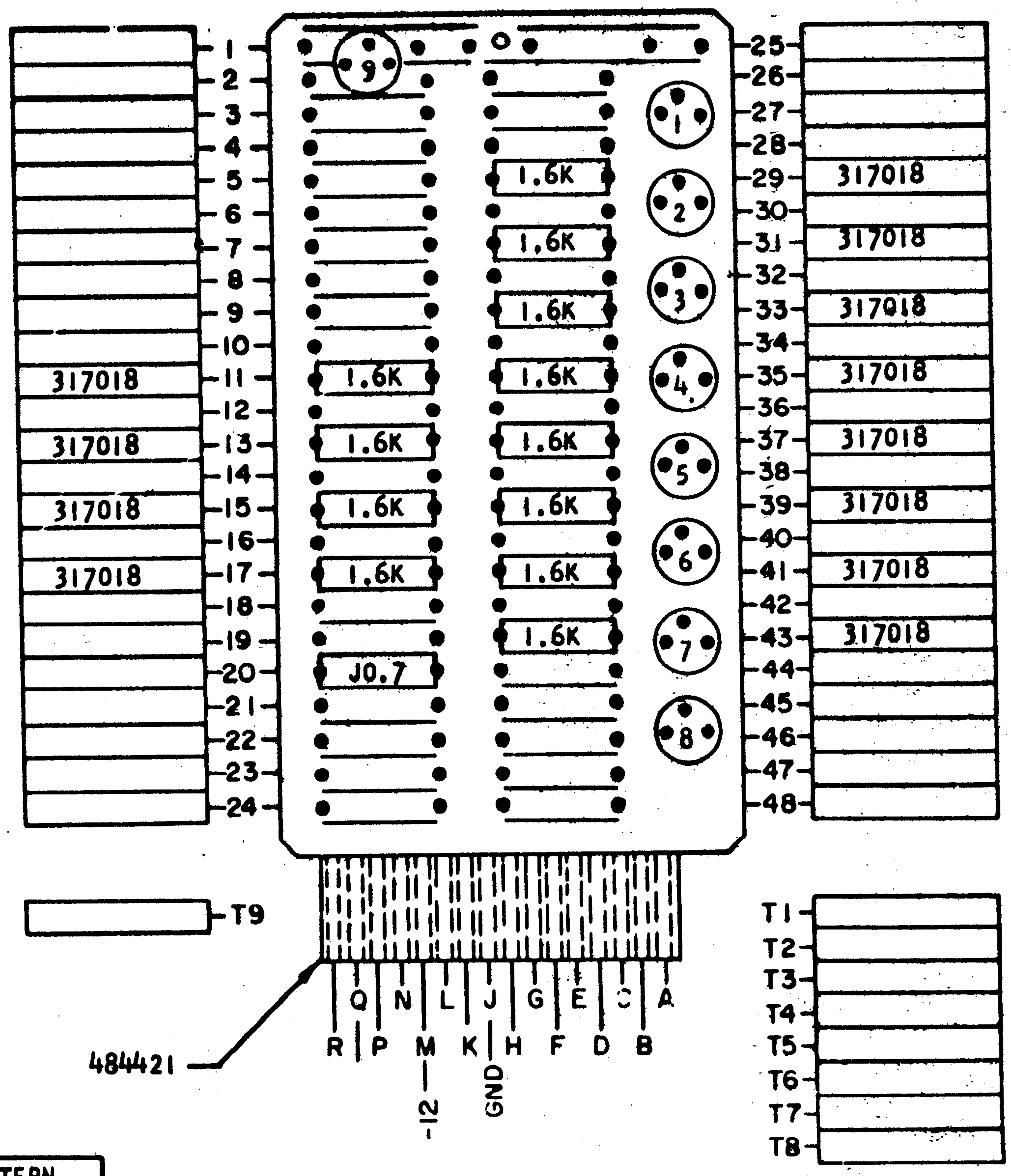
370232	DFJ-
STANDARDS CODE	2-7045

TDL & TRL LOAD CARD



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV REFER TO FIELD SERVICE DRAWING PART NUMBER 729909 WHEN MAKING A CHANGE TO THIS CIRCUIT



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
HDH GS	7-15-60

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR - TDL & TRL LOAD CARD			
DESIGN			TYPE	SMS
DETAIL	AP	6-13-60	SCALE	NONE
CHECK	CJB	8-4-60	DRAW	VE 7-9-63
APPRO	BES	8-5-60	CHECK	7-10-63

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
8-5-60	109754	IWB			
7-30-63	117824	MDL			

DEVELOPMENT NO.
X0680A
CIRCUIT FAMILY
CSDB

370232

82-3987 11-1-60

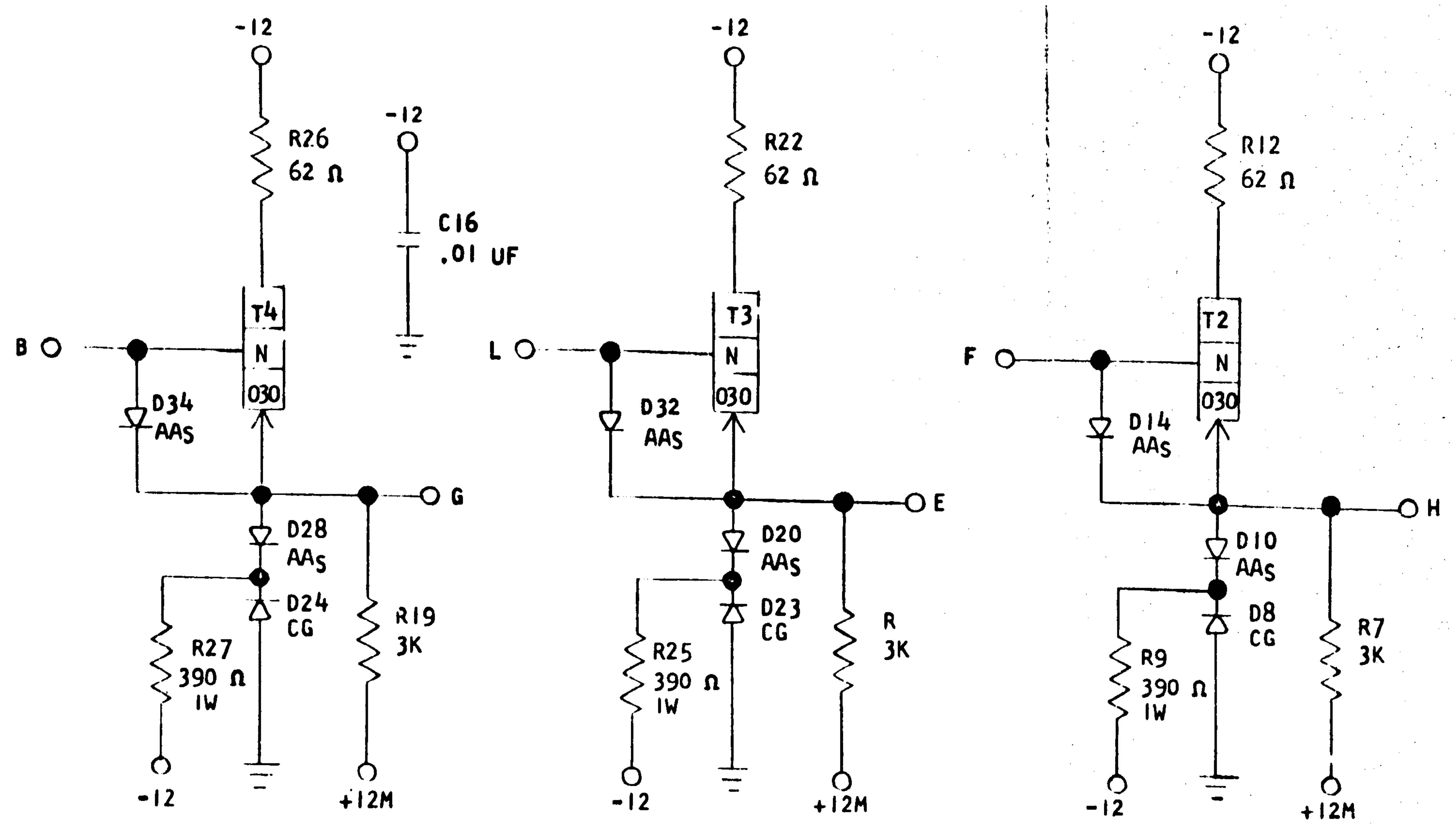
370233	DFH-
STANDARDS CODE	2-7045

370233

SDTRL HIGH POWER NON INVERTING DRIVER

RESTRICTED
NOTE XV

DISCONTINUED
REPLACED BY 370503



NOTES

I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892233

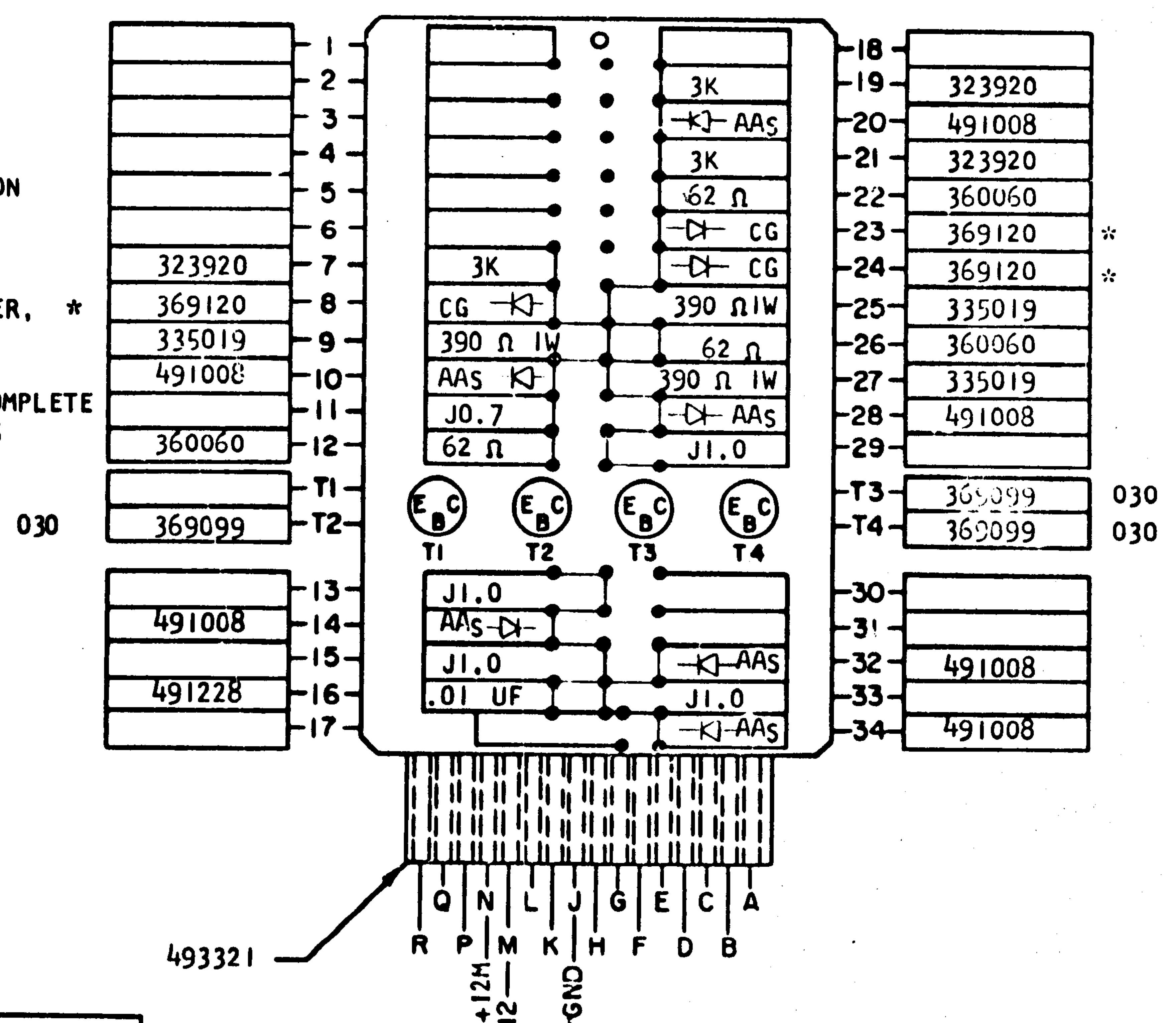
II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, * 491296

XIV

* XV TECHNICAL LABORATORY EVALUATION INCOMPLETE ADDITIONAL USAGE TO BE AVOIDED. THIS PART SUBJECT TO WITHDRAWAL



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H. D. Harf...	7-15-60

HOLE PATTERN
491329

INTERNATIONAL BUSINESS MACHINES CORP.				
NAME	CARD ASM TSTR- SDTRL HIGH POWER NON INVERTING DRIVER			
DESIGN			TYPE	SMS
DETAIL	CJL	8-4-60	SCALE	NONE
CHECK	CJE	8-4-60	DRAW	PJZ 8-3-60
APPRO	BES	8-5-60	CHECK	CLW 8-3-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
8-5-60	109754	NOTE XV			
11-23-60	110198	NOTE XV			
3-24-61	111539	NOTE XV			
12-4-61	113128	NOTE XV			

DEVELOPMENT NO.
X0654

370233

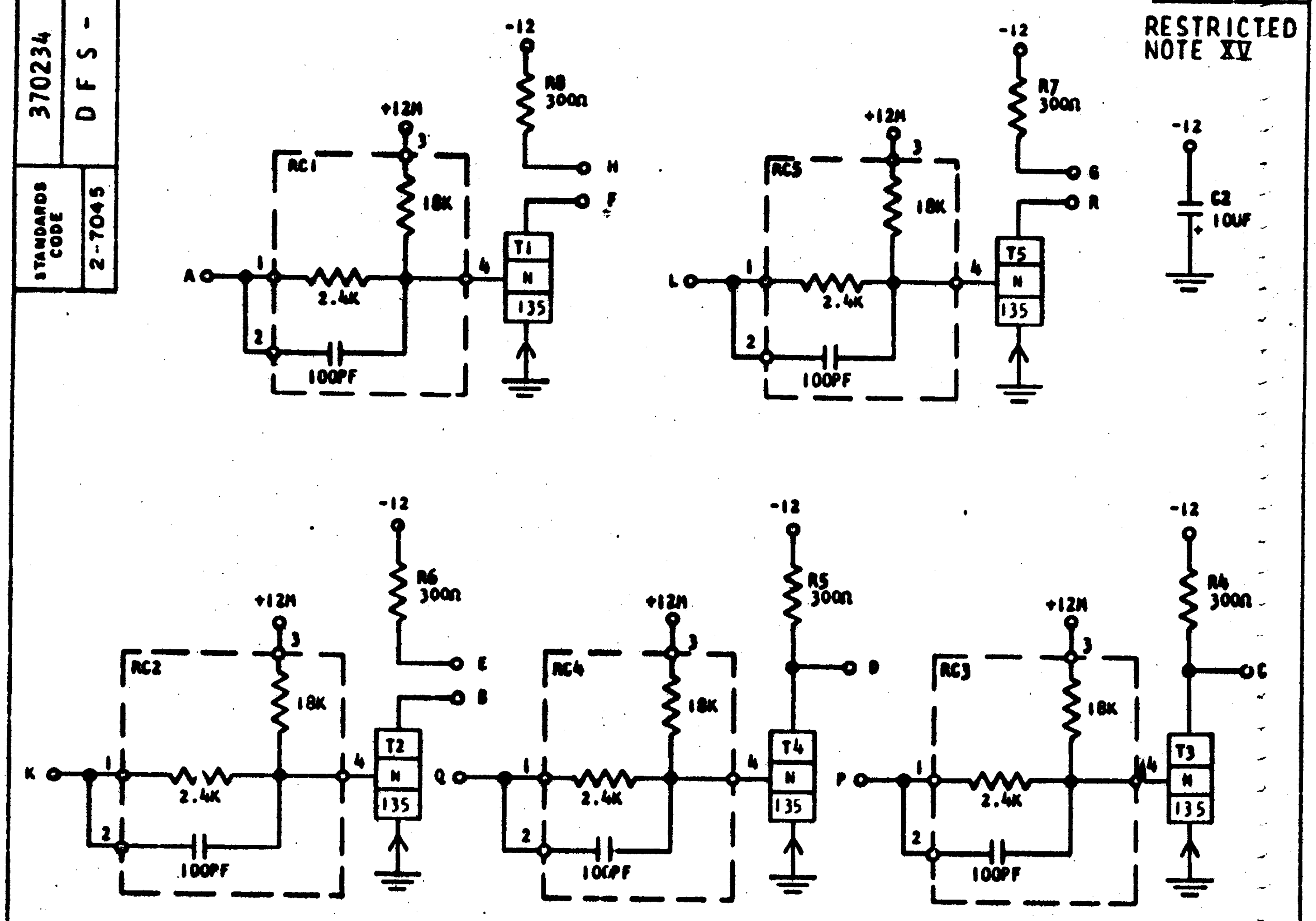
370234
D F S -

STANDARDS CODE	2-7045

LOW POWER INVERTER

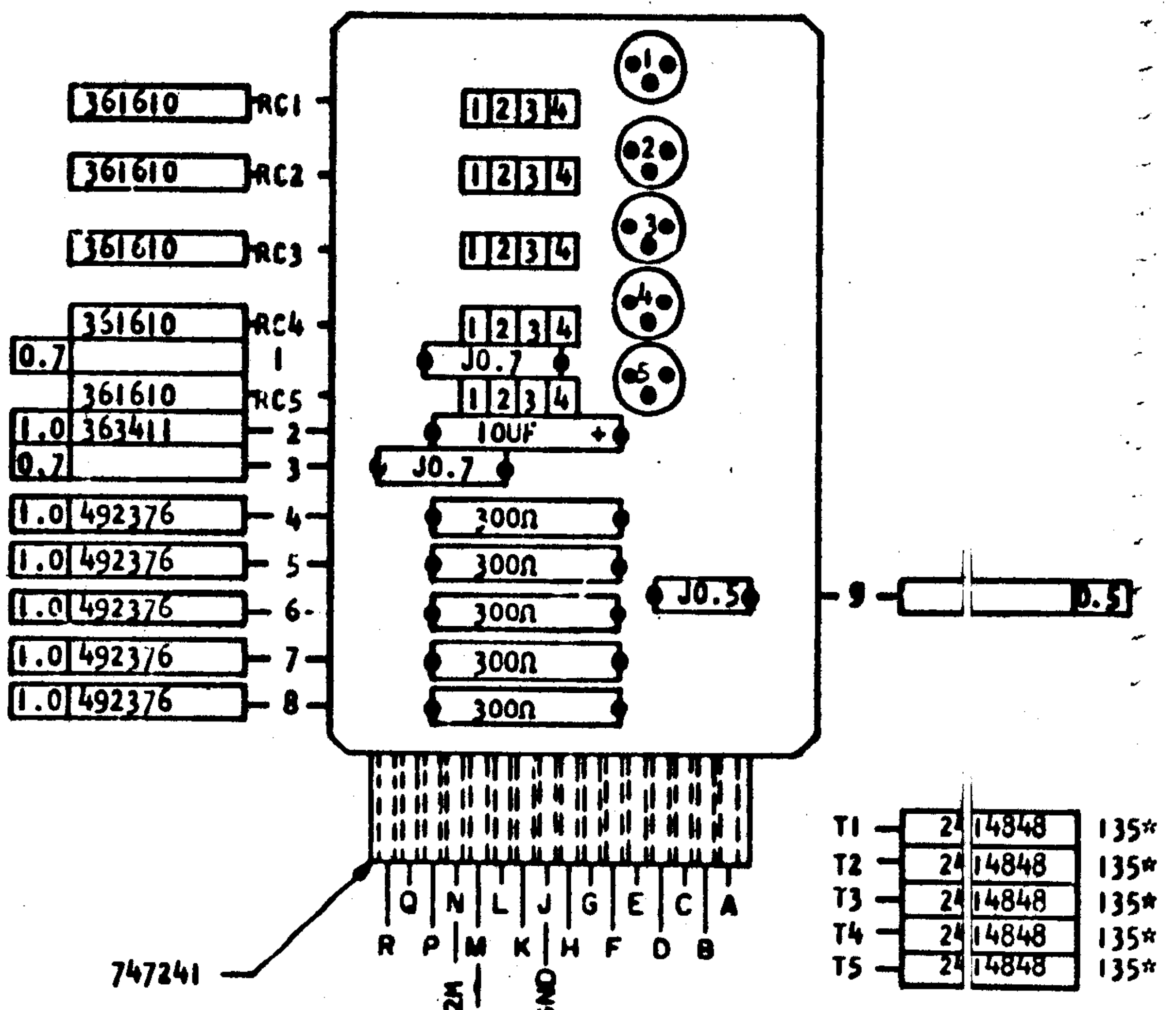
370234

RESTRICTED
NOTE XV



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892234
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV POSITIONS T1 THRU T5 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING
- *XV TECHNICAL LABORATORY EVALUATION INCOMPLETE ADDITIONAL USAGE TO BE AVOIDED. THIS PART SUBJECT TO WITHDRAWAL.



B

DPD CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
HDH (GS)	8-8-60

HOLE PATTERN
490376

COMPONENT SIDE

INTERNATIONAL BUSINESS MACHINES CORP.				
NAME	CARD ASM TSTR- LOW POWER INVERTER			
DESIGN			MODEL	SMS
DETAIL	AP	6-30-60	SCALE	NONE
CHECK	CJB	8-17-60	DRAW	LIG 5-7-63
APPRO	BES	8-19-60	CHECK	RJS 6-4-63

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
SEE INDEX CARD					
7-28-61	D112393	NOTE XVI			
6-7-62	113941	NOTE XVI			
7-12-63	116192	MDL			
11-6-63	116019	NOTE XV			

DEVELOPMENT NO.
X0682A
CIRCUIT FAMILY
SDTRL

370234

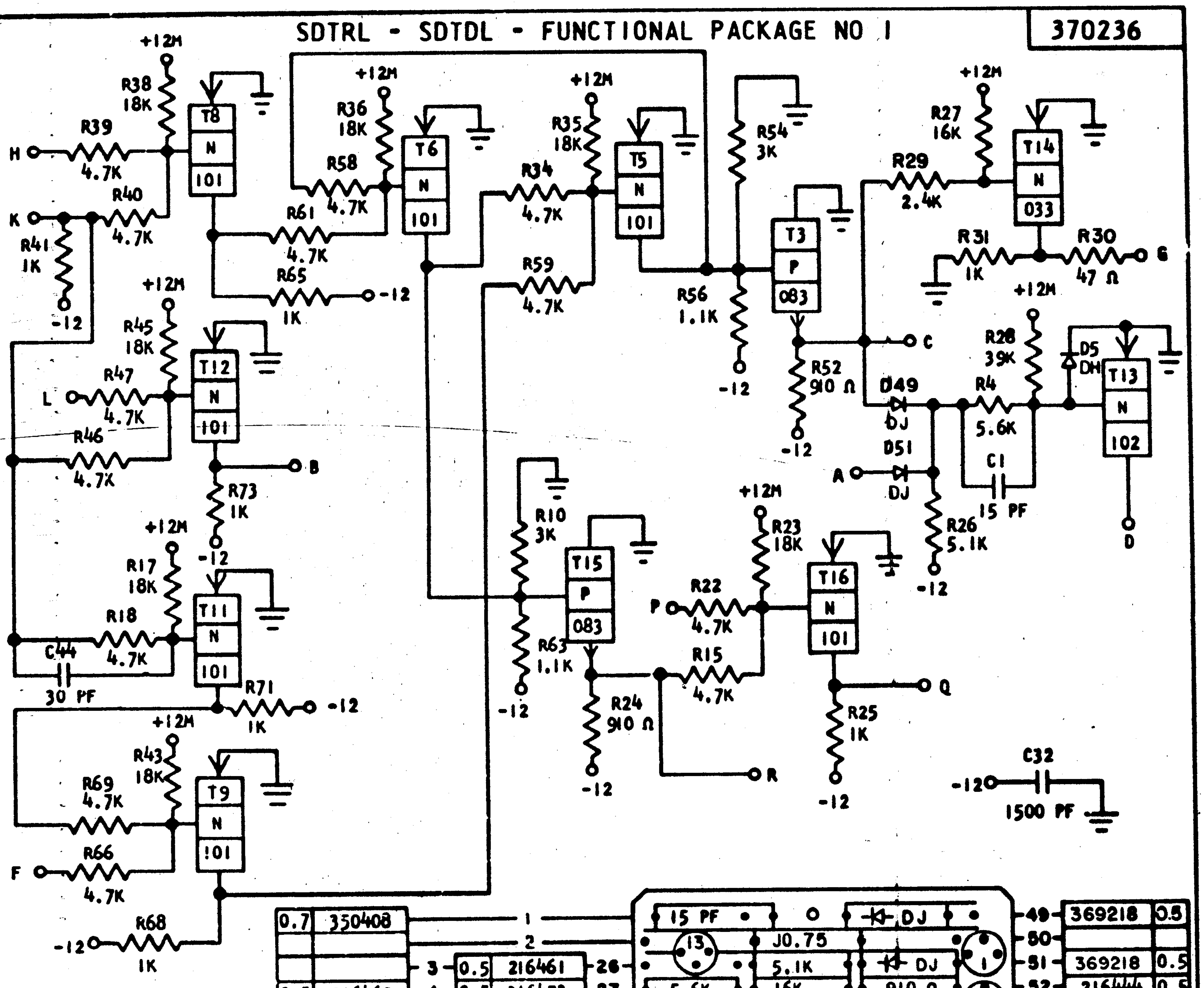
370236

D F T -

STANDARDS CODE	2-7045

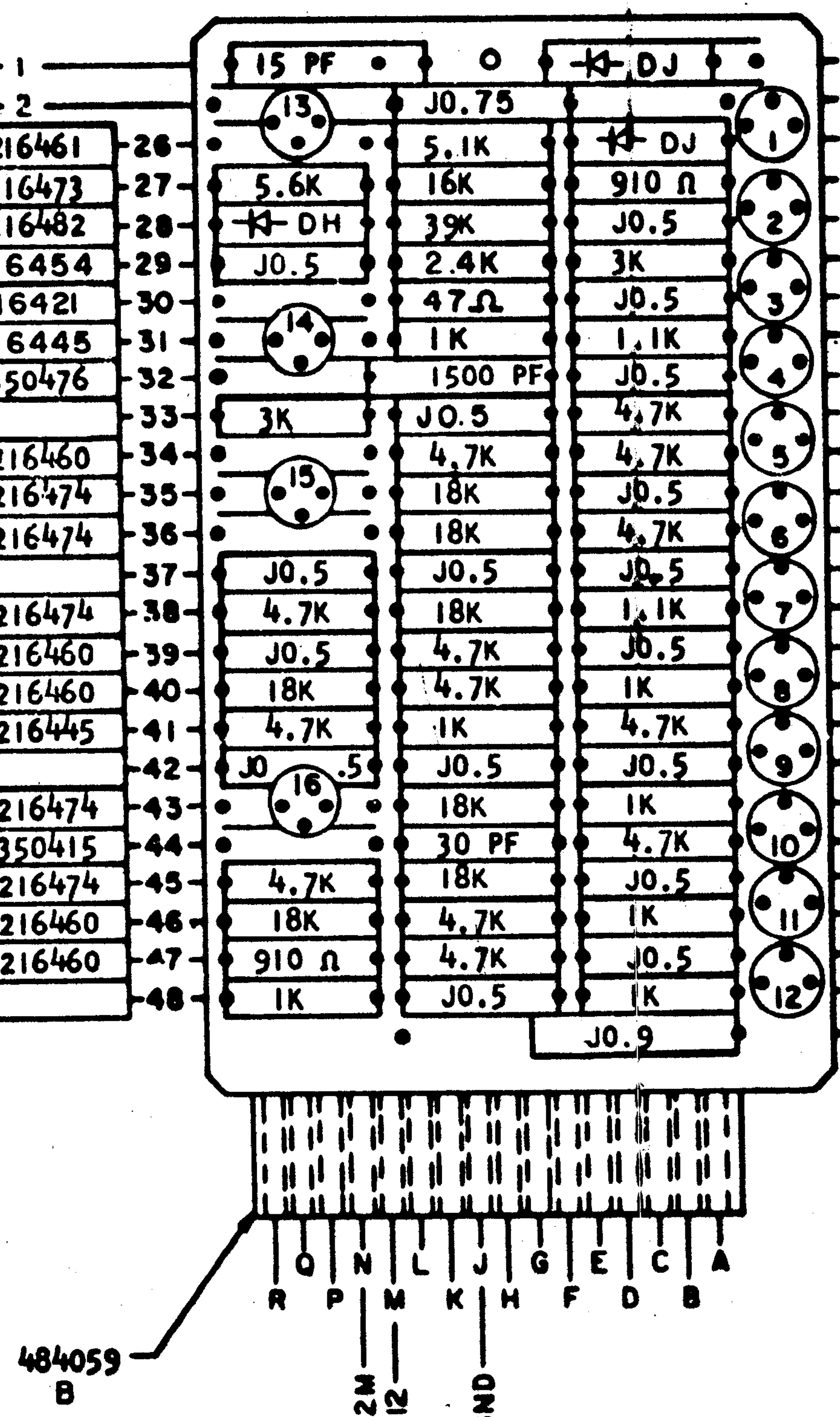
SDTRL - SDTDL - FUNCTIONAL PACKAGE NO I

370236



0.7	350408	1
		2
		3
0.5	216462	4
0.5	369217	5
		6
		7
		8
		9
0.5	595357	10
		11
		12
		13
		14
0.5	216460	15
		16
0.5	216474	17
0.5	216460	18
		19
		20
		21
0.5	216460	22
0.5	216474	23
0.5	216444	24
0.5	216445	25

0.5	216461	26
0.5	216473	27
0.5	216482	28
0.5	216454	29
0.5	216421	30
0.5	216445	31
0.7	350476	32
0.5		33
0.5	216460	34
0.5	216474	35
0.5	216474	36
		37
0.5	216474	38
0.5	216460	39
0.5	216460	40
0.5	216445	41
		42
0.5	216474	43
0.5	350415	44
0.5	216474	45
0.5	216460	46
0.5	216460	47
		48



49	369218	0.5
50		
51	369218	0.5
52	216444	0.5
53		
54	595357	0.5
55		
56	216446	0.5
57		
58	216460	0.5
59	216460	0.5
60		
61	216460	0.5
62		
63	216446	0.5
64		
65	216445	0.5
66	216460	0.5
67		
68	216445	0.5
69	216460	0.5
70		
71	216445	0.5
72		
73	216445	0.5
74		

T1		
T2		
T3	318325	083
T4		
T5	369177	101
T6	369177	101
T7		
T8	369177	101
T9	369177	101
T10		
T11	369177	101
T12	369177	101

102	369179	T13
033	318324	T14
083	318325	T15
101	369177	T16

NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892236
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/4 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV POSITIONS T5, T6, T8 T9, T11, T12, T13 AND T16 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 IN PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 AS REQUIRED FOR .200 PIN CIRCLE MOUNTING
- XV

COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
HDH GS	8-11-60

HOLE PATTERN
493460

INTERNATIONAL BUSINESS MACHINES CORP.				
NAME	CARD ASM TSTR SDTRL - SDTDL - FUNCTIONAL PACKAGE NO 1			
DESIGN			MODEL	SMS 1410
DETAIL	CJB	8-18-60	SCALE	NONE
CHECK	CJB	8-19-60	DRAW	VE 2-23-61
APPRO	DES	8-22-60	CHECK	WJF 3-3-61

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
8-22-60	109882	NOTE XV	10-5-62	113953	MDL	X0695C
5-16-61	112008	NOTE XV	5-22-63	D116181	MDL	
9-19-61	112133	NOTE XV				
12-4-61	112747	NOTE XV				
1-23-62	D113143	NOTE XV				

370236

82-4003-1 6-22-61

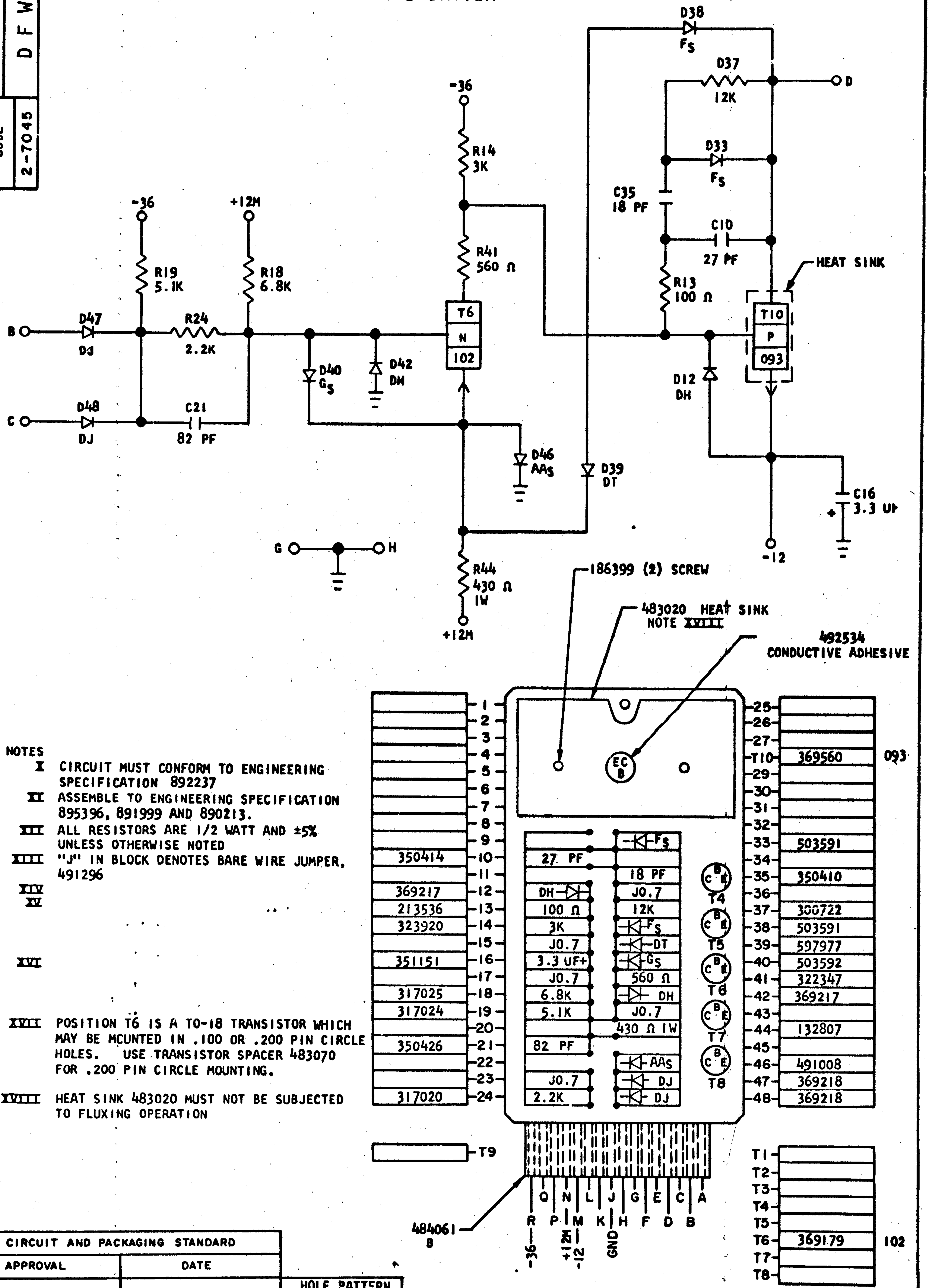
370237

D F W -

STANDARDS CODE 2-7045

370237

DRIFT Z DRIVER



NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892237

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396, 891999 AND 890213.

XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296

XIV

XV

XVI

XVII POSITION T6 IS A TO-18 TRANSISTOR WHICH MAY BE MCUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING.

XVIII HEAT SINK 483020 MUST NOT BE SUBJECTED TO FLUXING OPERATION

B

COMPONENT SIDE

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
D. P. Brown	8-22-60

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- DRIFT Z DRIVER			
DESIGN		TYPE	SMS 1410	
DETAIL	RSH 7-5-60	SCALE	NONE	
CHECK	CJ3 8-26-60	DRAW	MDE	8-23-60
APPRO	BES 8-29-60	CHECK		

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
8-29-60	109896	NOTE XVI	6-14-62	113946	MDL
10-24-60	110089	NOTE XVI	9-17-62	114443A	MDL
12-6-60	D107949	NOTE XVI			
3-9-61	111390	NOTE XVI			
8-16-61	112439	NOTE XVI			

DEVELOPMENT NO.
X0838F

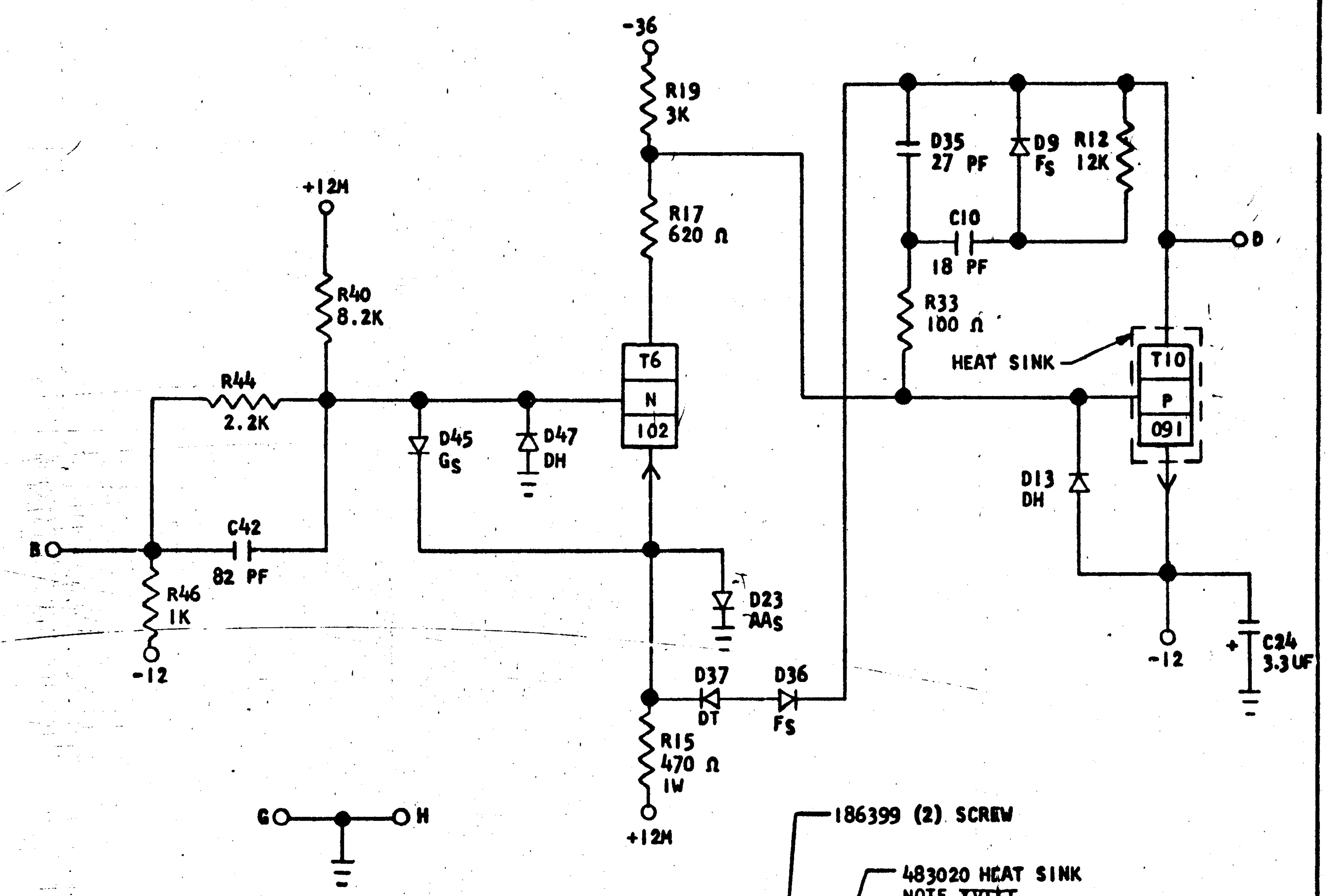
370237

370238	D F V - R
STANDARDS CODE	2-7045

370238

Memory Driver

DRIFT X-Y DRIVER



NOTES

I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892238

II ASSEMBLE TO ENGINEERING SPECIFICATION 895396, 891999 AND 890213

III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296

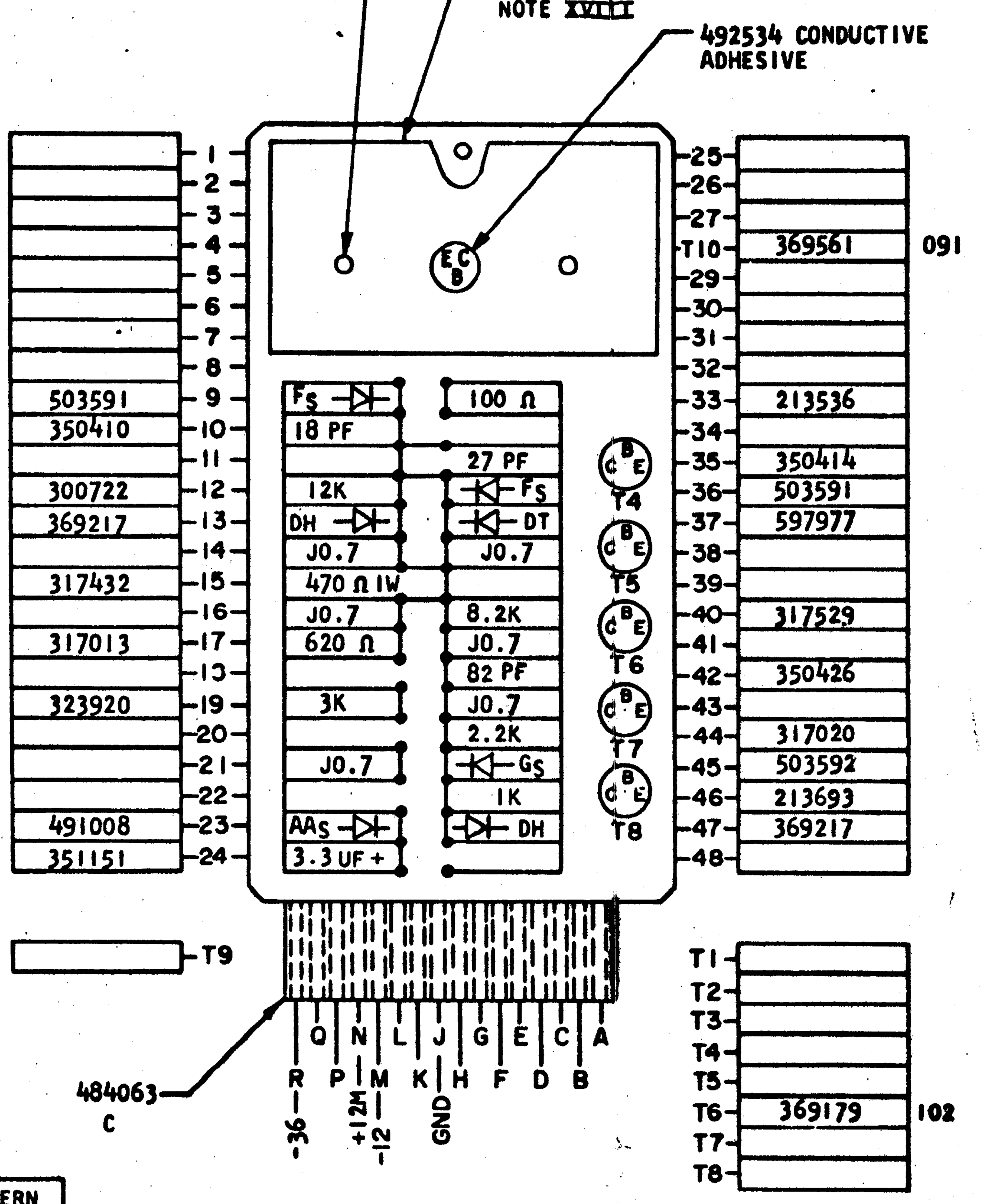
XIV

XV

XVI

XVII POSITION T6 IS A TO-18 TRANSISTOR WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING.

XVIII HEAT SINK 483020 MUST NOT BE SUBJECTED TO FLUXING OPERATION



B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
D. P. Brown	8-22-60

HOLE PATTERN
493457

COMPONENT SIDE

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR-DRIFT X-Y DRIVER				
DESIGN			TYPE	SMS 1410	
DETAIL	CJF	8-5-60	SCALE	NONE	
CHECK	CJF	8-...	DRAW	MDE	8-23-60
APPRO	BES	8-29-60	CHECK		

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
8-29-60	109896	NOTE XVI	6-14-62	113946	MDL	X0839G
10-24-60	110089	NOTE XVI	9-17-62	114443A	MDL	
12-6-60	D107949	NOTE XVI	10-24-62	D114741	MDL	
3-10-61	111397	NOTE XVI				
8-16-61	112439	NOTE XVI				

370238

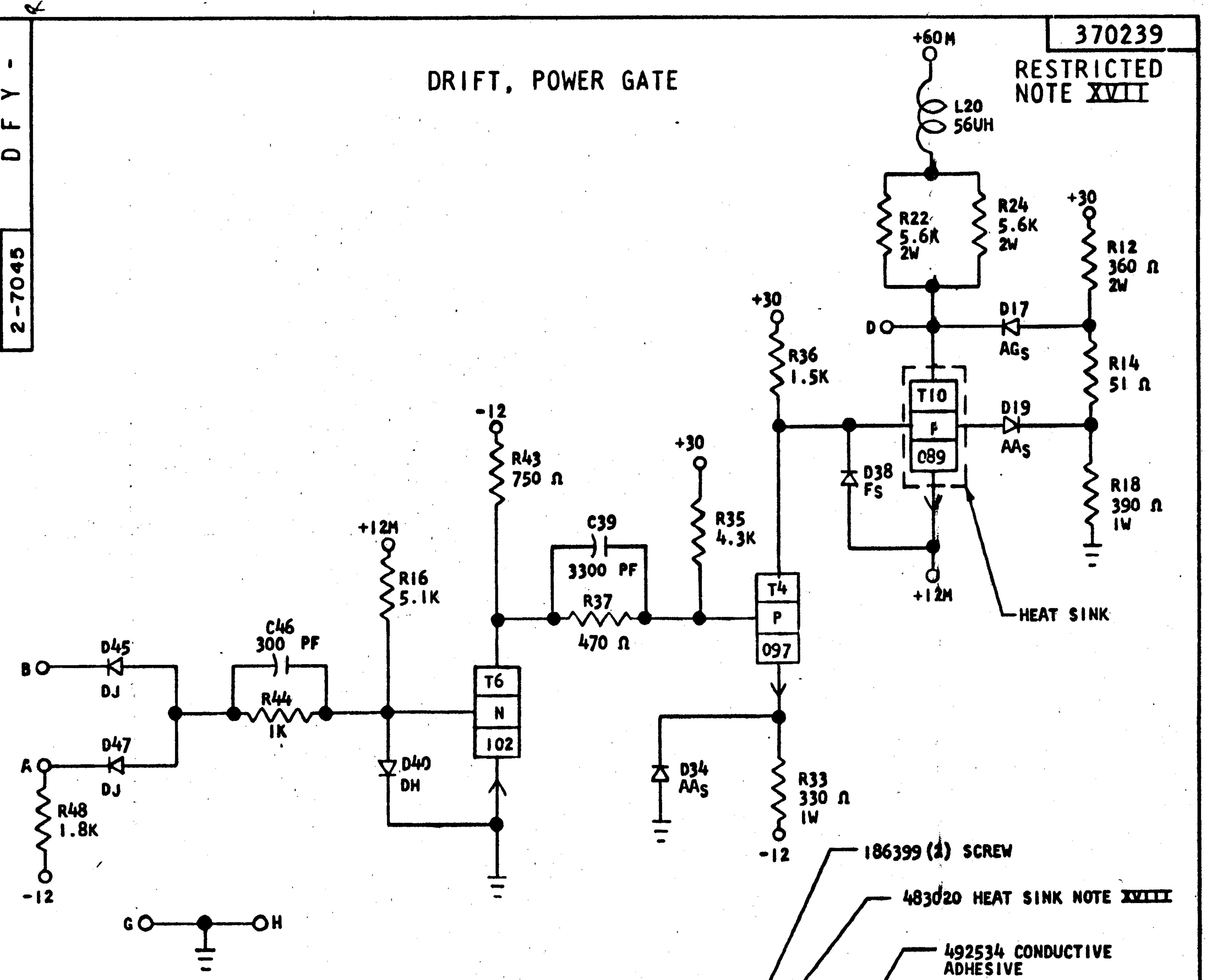
370239 DFY-

STANDARDS CODE 2-7045

370239

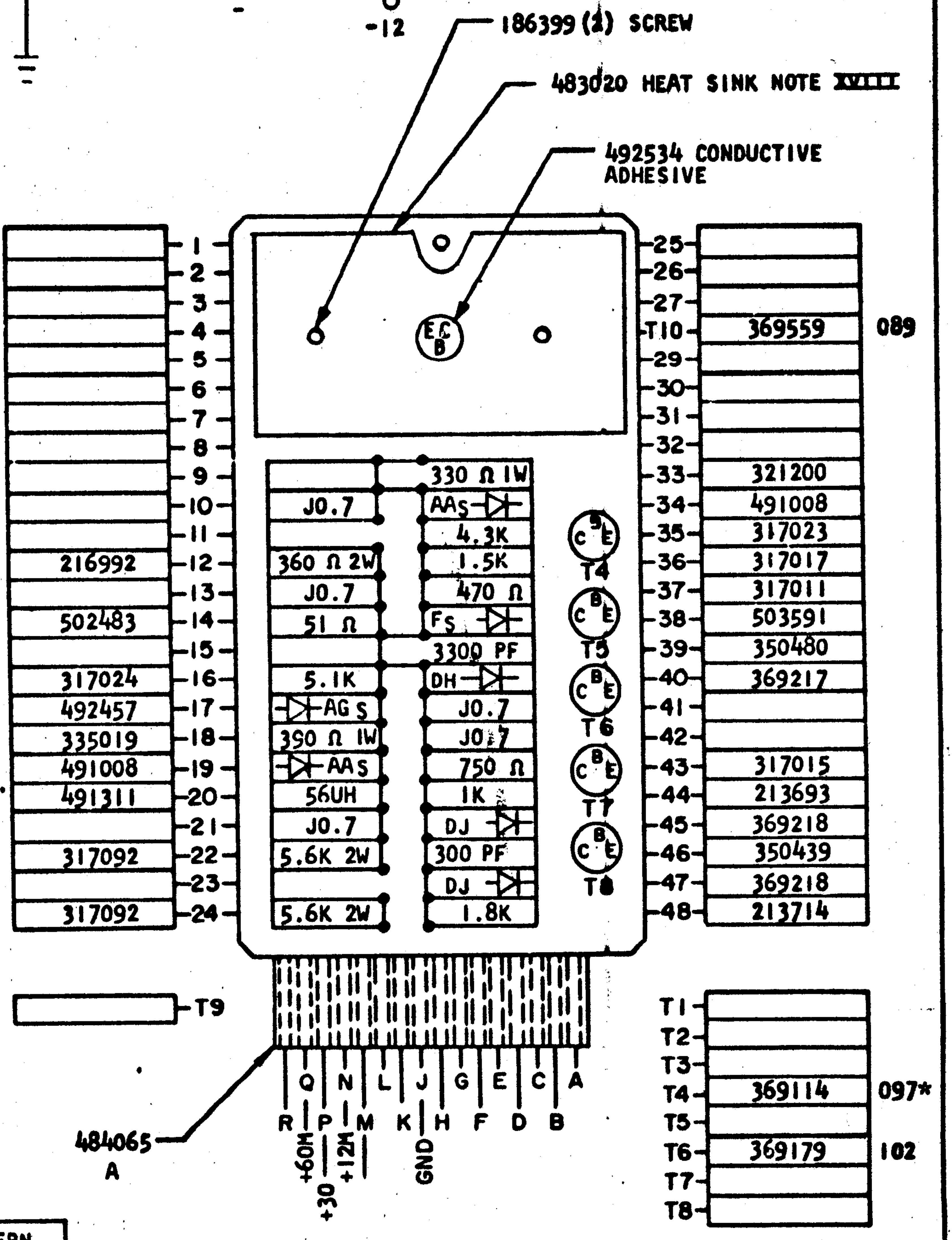
RESTRICTED NOTE XVII

DRIFT, POWER GATE



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892239
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396, 891999 AND 890213
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- XIV
- XV
- XVI MOUNT TRANSISTOR 369179 WITH TRANSISTOR SPACER 483070
- * XVII TECHNICAL LABORATORY EVALUATION INCOMPLETE. ADDITIONAL USAGE TO BE AVOIDED. THIS PART SUBJECT TO WITHDRAWAL.
- XVIII HEAT SINK 483020 MUST NOT BE SUBJECTED TO FLUXING OPERATION



B

COMPONENT SIDE

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
D. P. [illegible]	8-22-60

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- DRIFT, POWER GATE		
DESIGN		TYPE	SMS 1410
DETAIL	CB 7-5-60	SCALE	NONE
CHECK	[illegible]	DRAW	MDE 8-23-60
APPRO	[illegible]	CHECK	

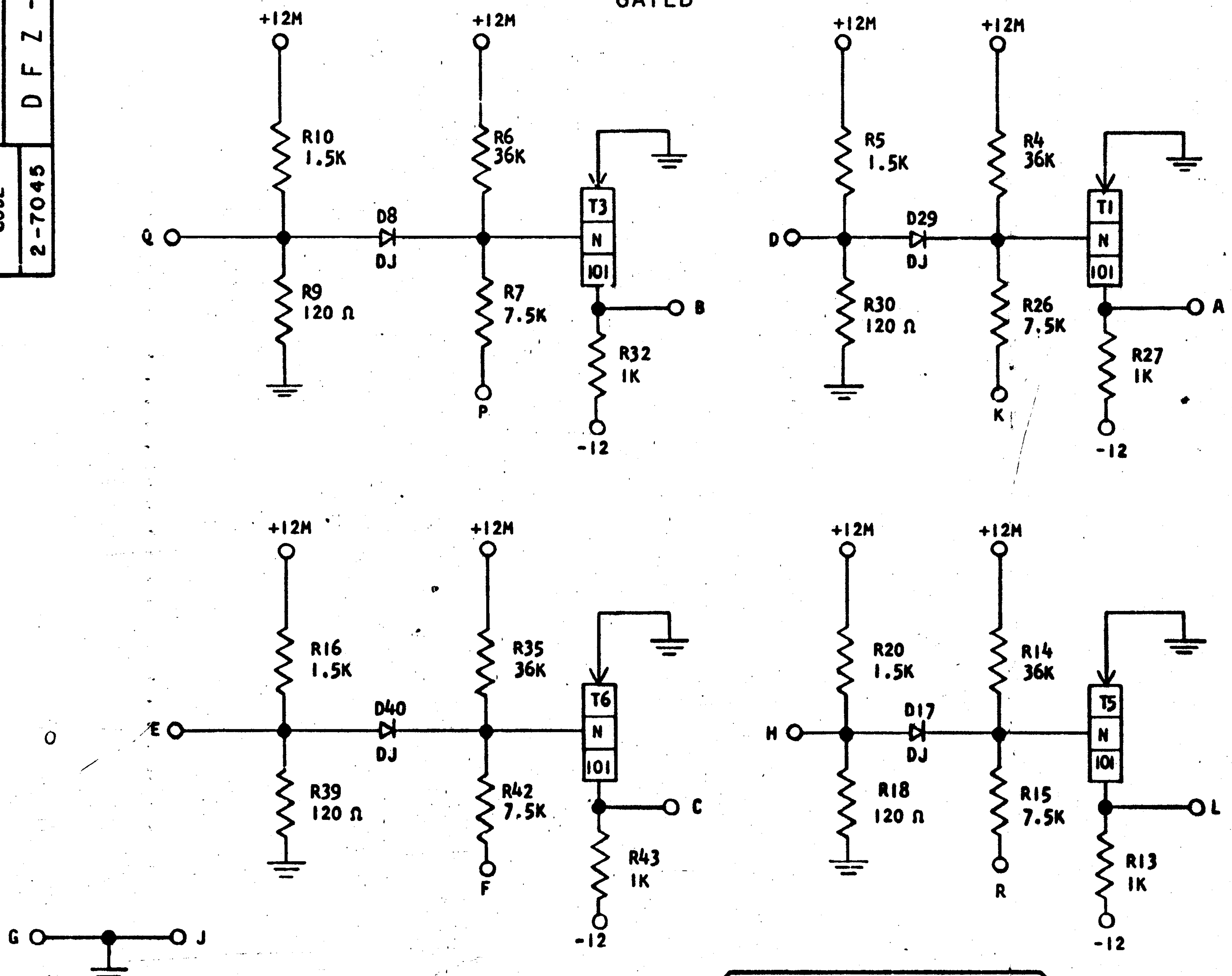
DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
8-29-60	109896	NOTE XVII	8-6-62	113881	NOTE XVII	X0679A
10-13-60	110099	NOTE XVII	9-17-62	114443A	NOTE XVII	
12-6-60	107949	NOTE XVII				
3-9-61	111390	NOTE XVII				
8-16-61	112439	NOTE XVII				

370239

370241	DFZ-
STANDARDS CODE	2-7045

370241

SDTRL - SIMPLEX INTERFACE TERMINATOR
GATED



NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 891988 AND 870101

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

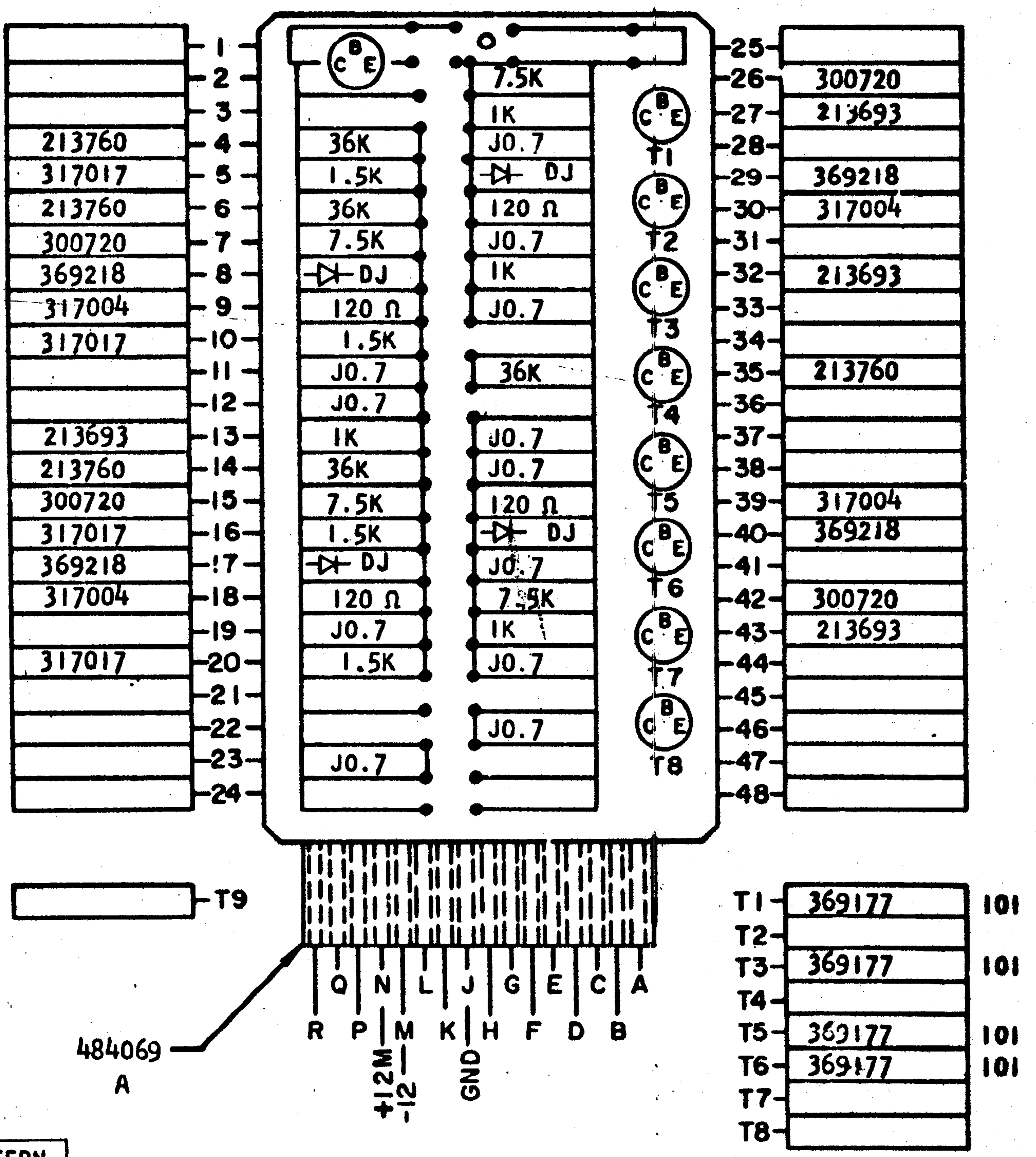
XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296

XIV

XV POSITIONS T1,T3,T5 AND T6 ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED ON .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING.

XVI



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H. D. Ha[illegible]	9-1-60

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR-SDTRL-SIMPLEX INTERFACE TERMINATOR GATED				
DESIGN			TYPE	SMS	
DETAIL	CR	9-[illegible]-60	SCALE	NONE	
CHECK	P	9-[illegible]-60	DRAW	VE	9-6-60
APPRO	BES	9-[illegible]-60	CHECK		

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
9-9-60	109924	NOTE XVI	12-4-61	112746	NOTE XVI	X0648A
12-22-60	110851	NOTE XVI	6-19-62	113668	NOTE XVI	
3-9-61	111390	NOTE XVI	8-21-62	D114375	MDL	
5-3-61	111805	NOTE XVI	3-1-63	116084	MDL	
6-1-61	112012	NOTE XVI				

370241

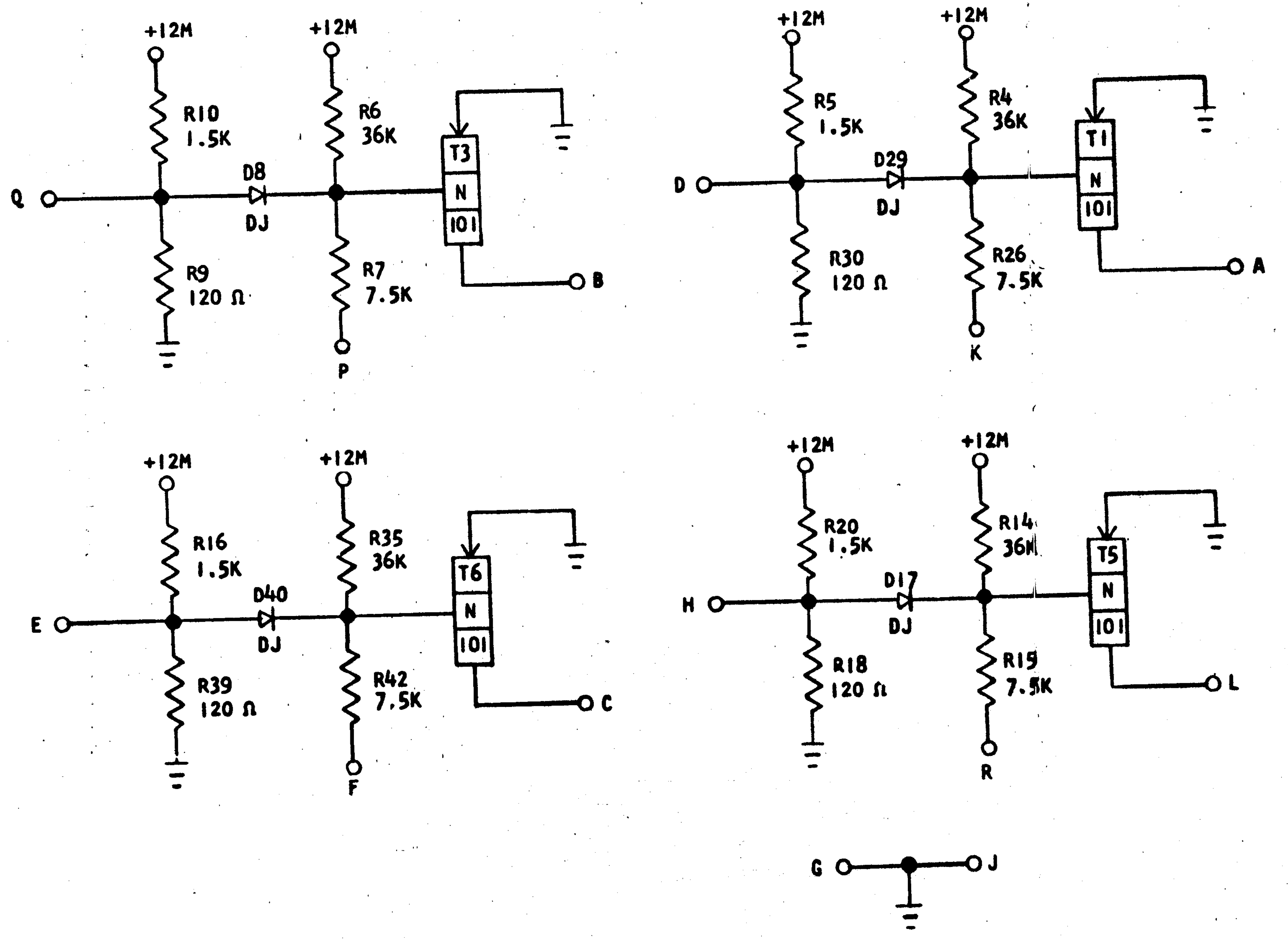
370242

370242

D G A -

STANDARDS CODE 2-7045

SDTRL - SIMPLEX INTERFACE TERMINATOR
GATED WITHOUT LOADS



NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 891988 AND 870101

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

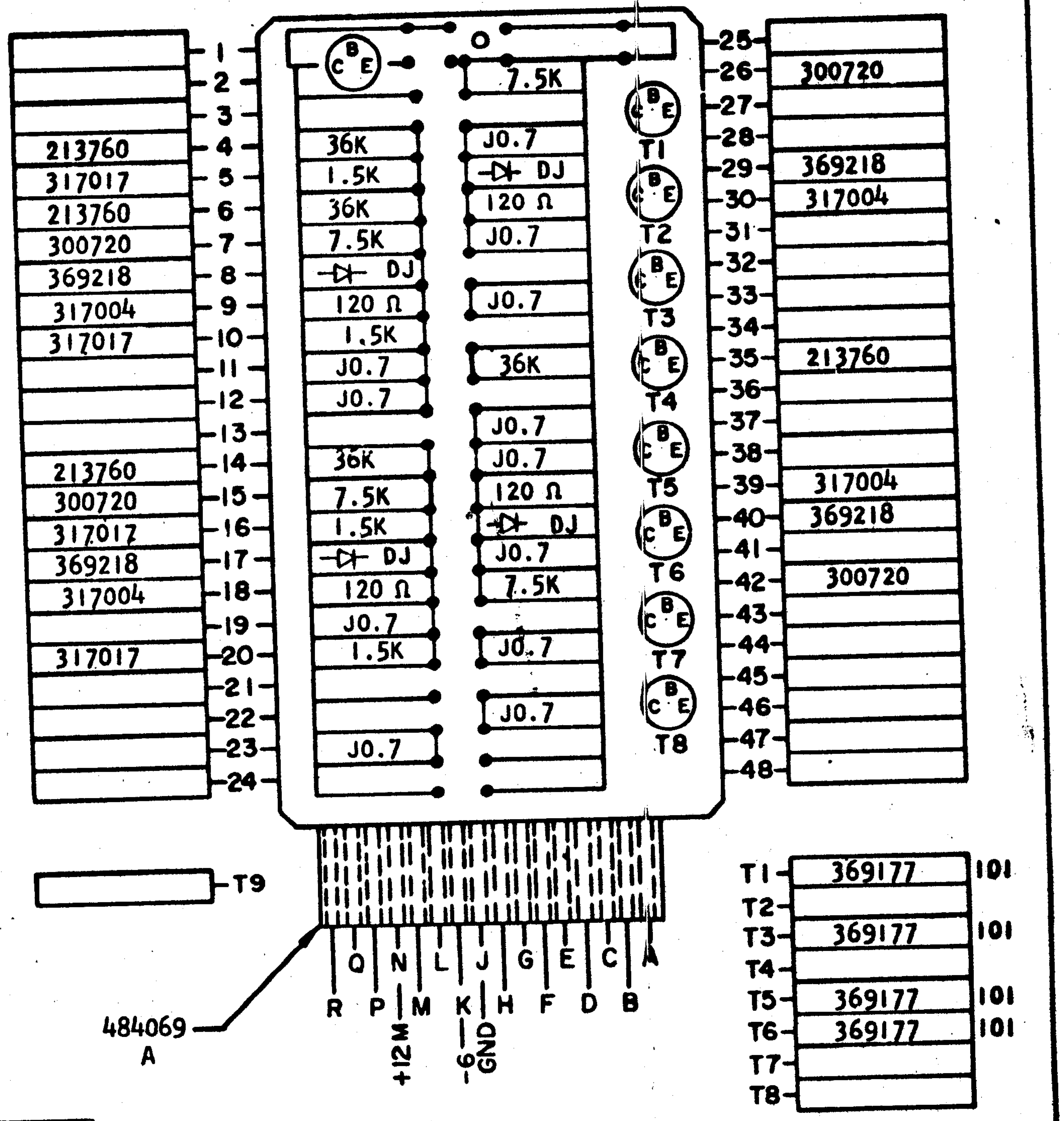
XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296

XIV

XV POSITIONS T1,T3,T5 AND T6 ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED ON .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING.

XVI



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H. D. H[illegible]	9-1-60

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR-SDTRL-SIMPLEX INTERFACE TERM. GATED W/O LDS		
DESIGN		TYPE	SMS
DETAIL	C.H. 9-[illegible]	SCALE	NONE
CHECK	A.P. [illegible]	DRAW	VE 9-6-60
APPRO	[illegible]	CHECK	

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
9-9-60	109924	NOTE XVI	6-1-61	112012	NOTE XVI
10-20-60	110172	NOTE XVI	12-4-61	112746	NOTE XVI
12-22-60	110851	NOTE XVI	6-19-62	113668	NOTE XVI
3-9-61	111390	NOTE XVI	8-21-62	D114375	MDL
5-2-61	111806	NOTE XVI	3-1-63	116084	MDL

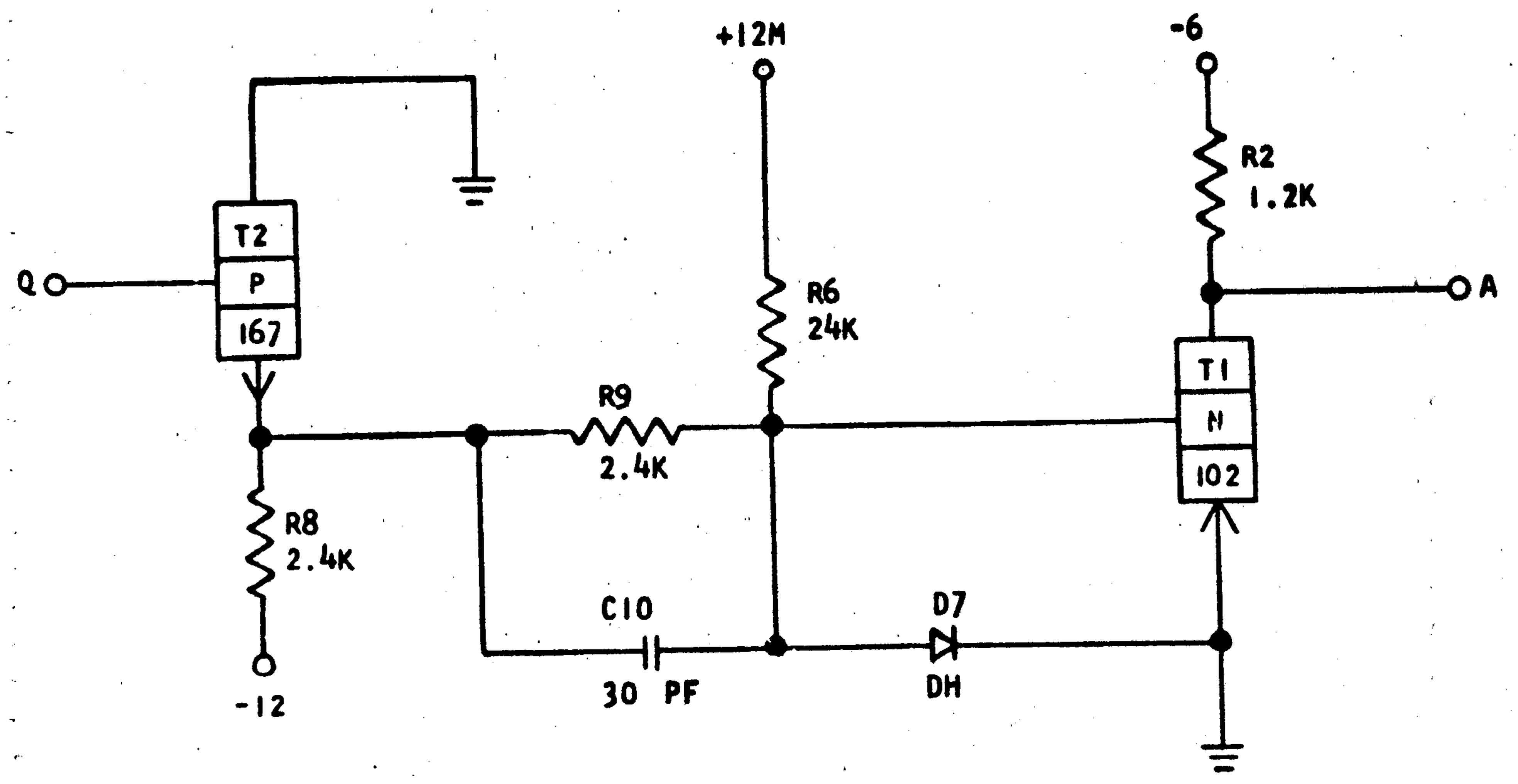
DEVELOPMENT NO.
X0649A

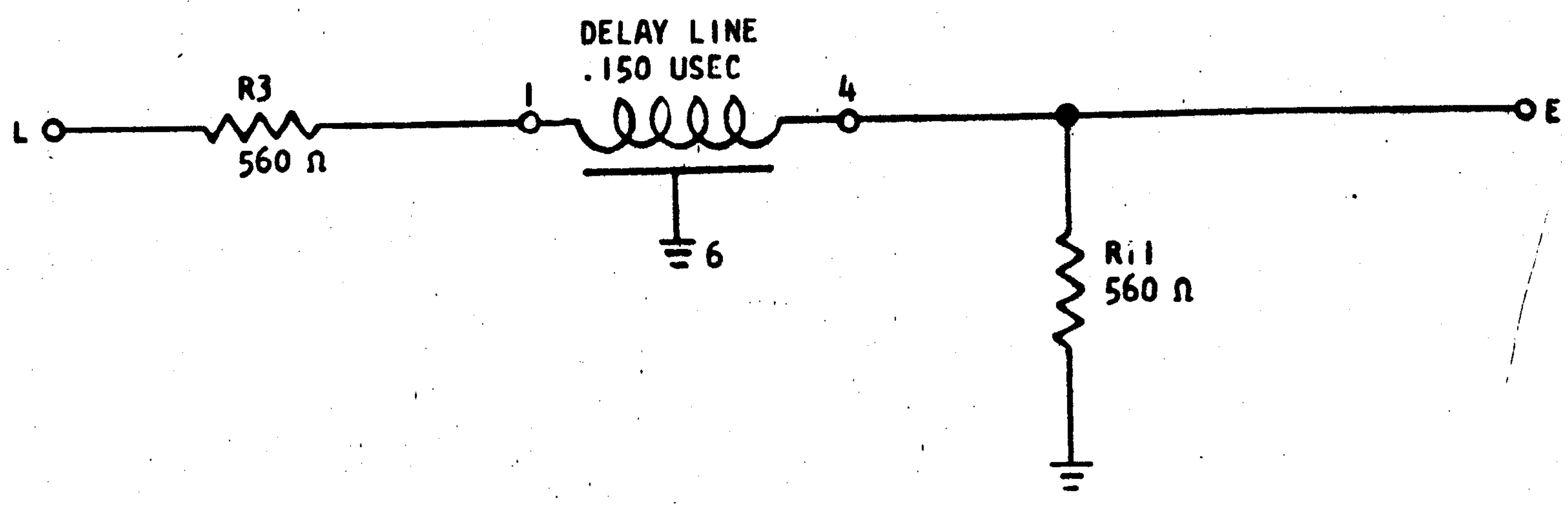
370242

370244

370244	DGC-
STANDARDS CODE	2-7045

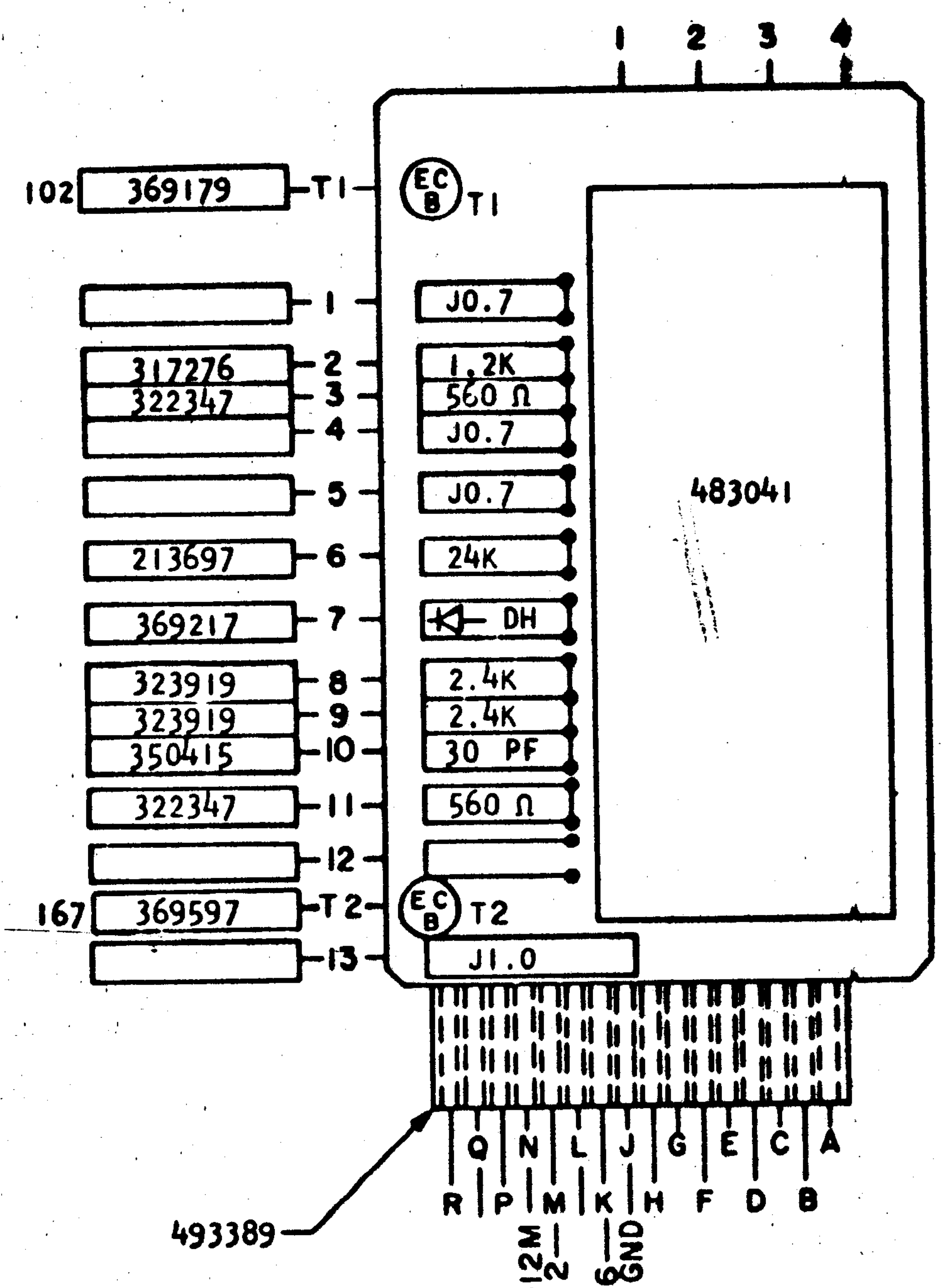
SDTDL MEMORY .150 USEC DELAY LINE .





O
NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892244
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999.
- XII ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED.
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296.
- XIV
- XV MOUNT TRANSISTOR 369179 WITH TRANSISTOR SPACER 483070
- XVI



COMPONENT SIDE

B

CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
H. D Hanford	9-2-60

HOLE PATTERN
492672

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- SDTDL MEMORY .150 USEC DELAY LINE				
DESIGN			MODEL	SMS 1410	
DETAIL	CB	9-21-60	SCALE	NONE	
CHECK	CB	9-21-60	DRAW	VE	9-17-60
APPRO	BES	9-22-60	CHECK	RLH	9-19-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
9-22-60	110061	NOTE XVI			
11-19-60	110530	NOTE XVI			
3-9-61	111390	NOTE XVI			
9-18-62	112418	MDL			

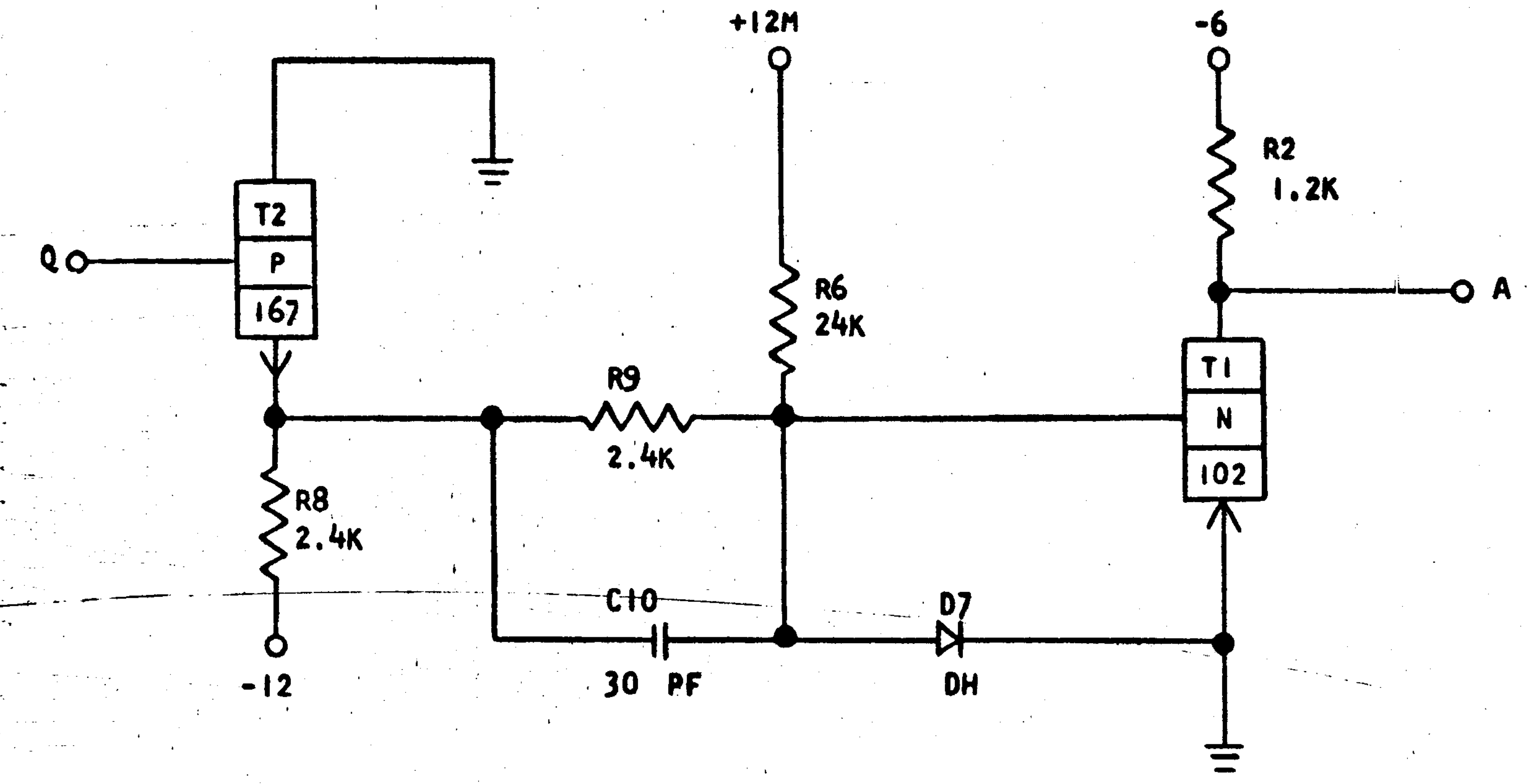
DEVELOPMENT NO.
X0588

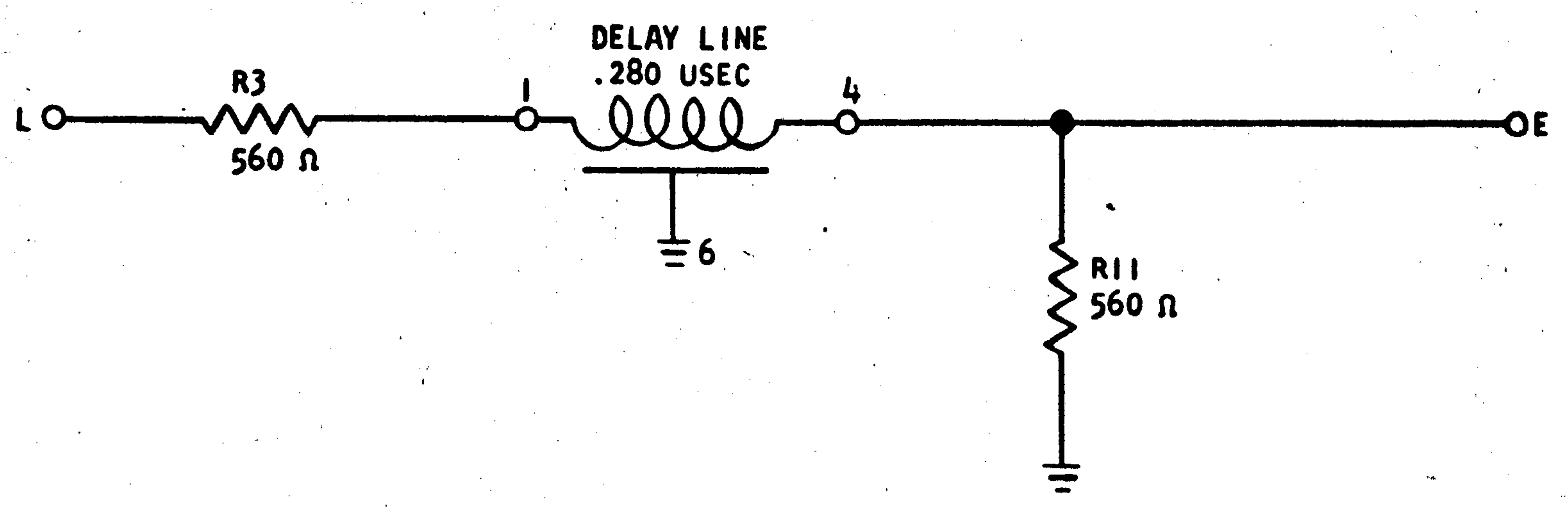
370244

370245	B G D -
STANDARDS CODE	2-7045

370245

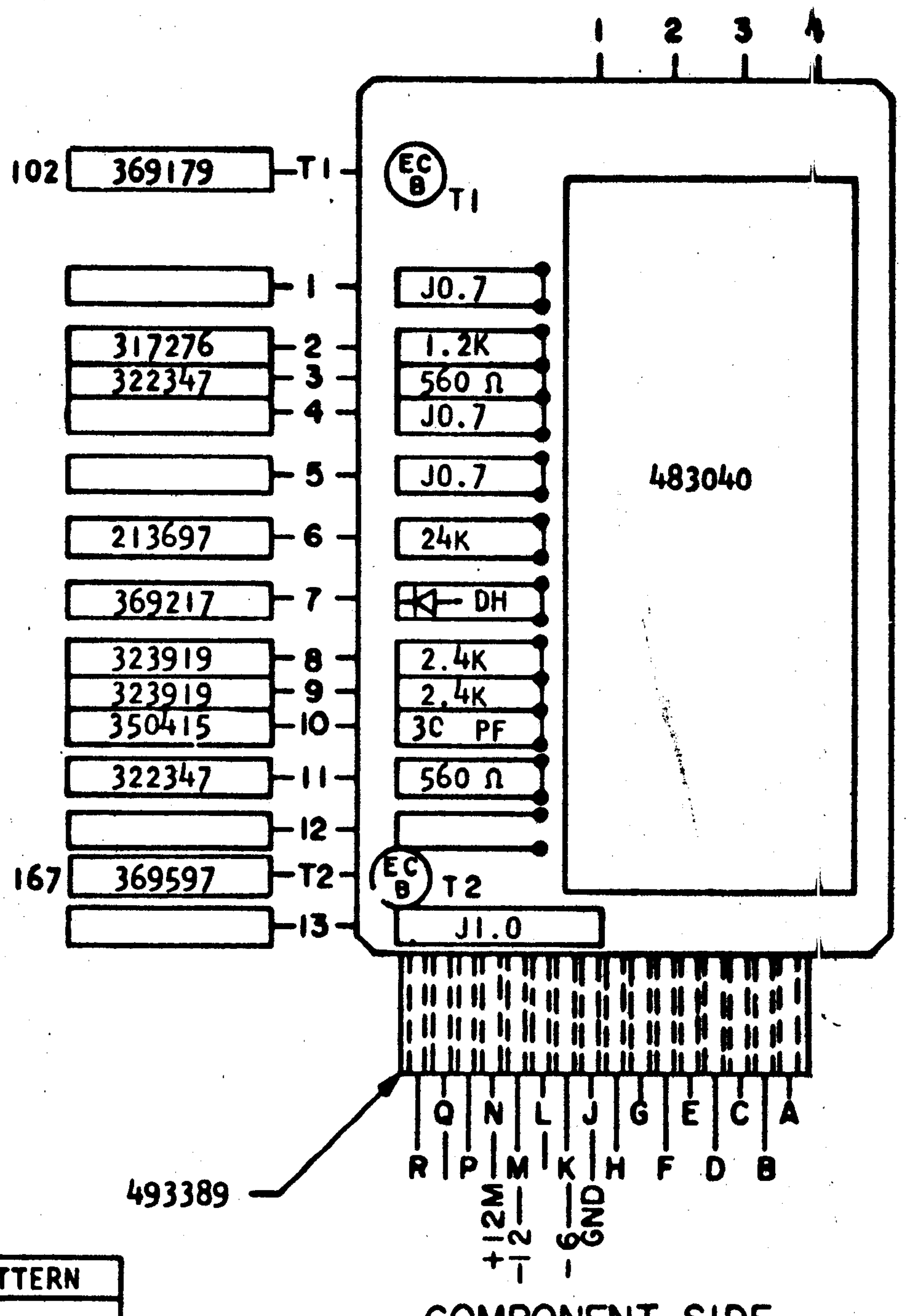
SDTDL MEMORY .280 USEC DELAY LINE





NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892244
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999.
- XII ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED.
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296.
- XIV
- XV MOUNT TRANSISTOR 369179 WITH TRANSISTOR SPACER 483070
- XVI



COMPONENT SIDE

B

CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
H D Hanford	9-2-60

HOLE PATTERN
492672

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- SDTDL MEMORY				
.280 USEC DELAY LINE					
DESIGN			MODEL	SMS 1410	
DETAIL	CB	9-21-60	SCALE	NONE	
CHECK	CB	9-21-60	DRAW	VF	9-17-60
APPRO	BES	9-19-60	CHECK	RH	9-19-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO	APPROVAL
9-22-60	110061	NOTE XVI			
11-19-60	110530	NOTE XVI			
3-9-61	111390	NOTE XVI			
9-18-62	112418	MDL			

DEVELOPMENT NO.
X0587

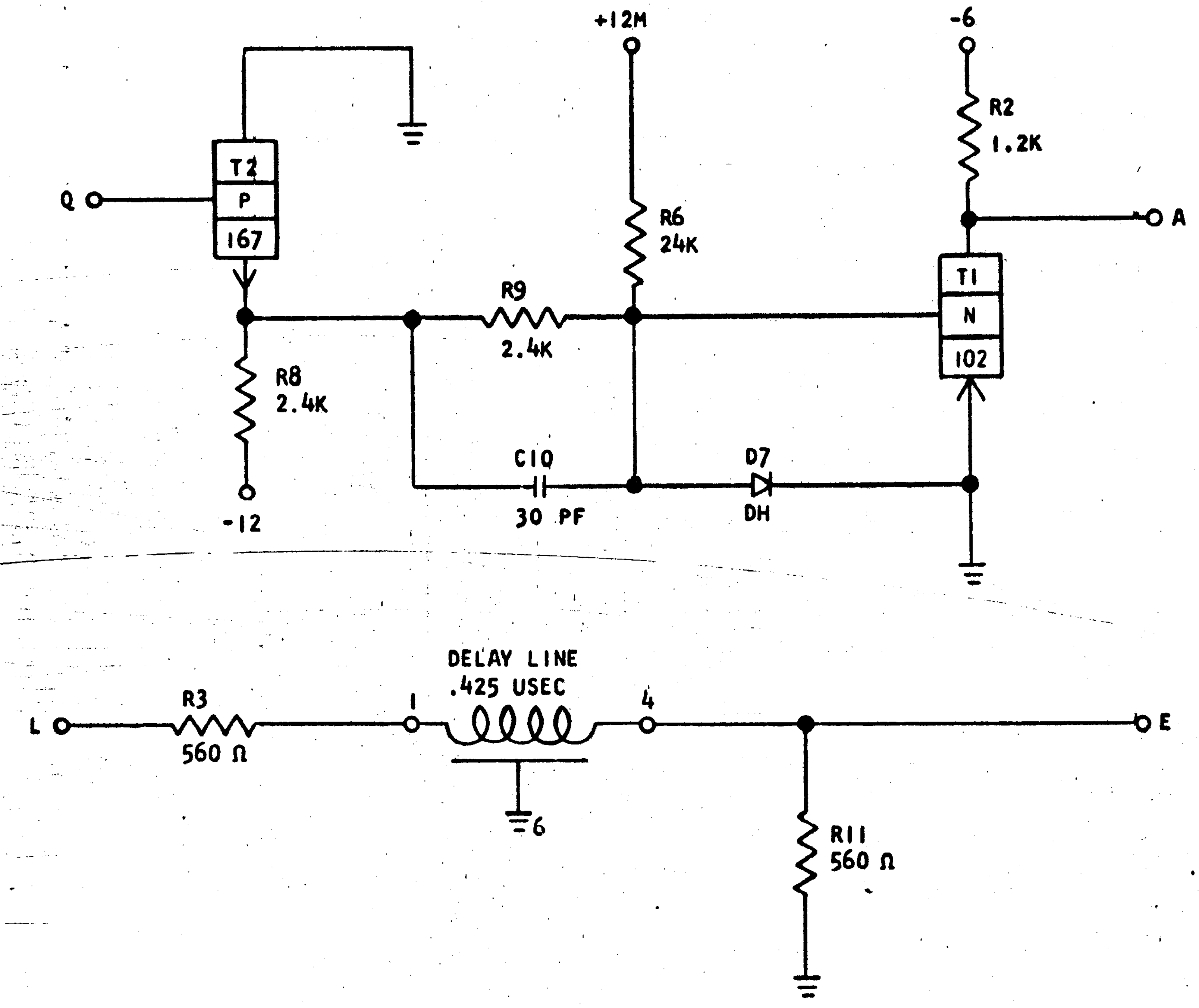
370245

370246 DGE -

STANDARDS CODE 2-7045

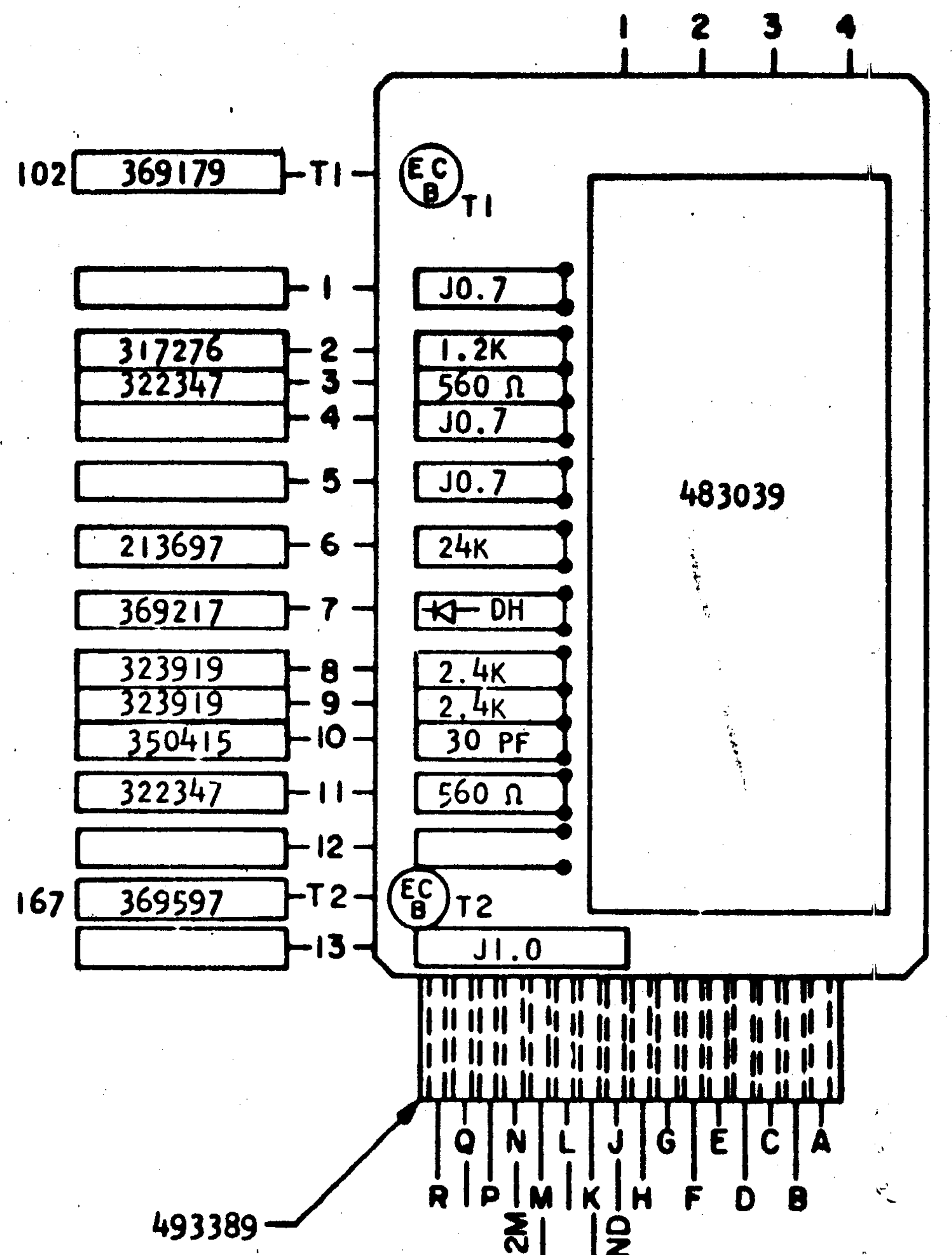
370246

SDTDL MEMORY .425 USEC DELAY LINE



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892244
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999.
- XII ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED.
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296.
- XIV
- XV MOUNT TRANSISTOR 369179 WITH TRANSISTOR SPACER 483070
- XVI



COMPONENT SIDE

B

CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
H D Hanford	9-2-60

HOLE PATTERN
492672

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR-SDTDL MEMORY .425 USEC DELAY LINE				
DESIGN			MODEL	SMS 1410	
DETAIL	CB	9-21-60	SCALE	NONE	
CHECK	CB	9-21-60	DRAW	VE	9-17-60
APPRO	BES	9-22-60	CHECK	RCH	9-19-60

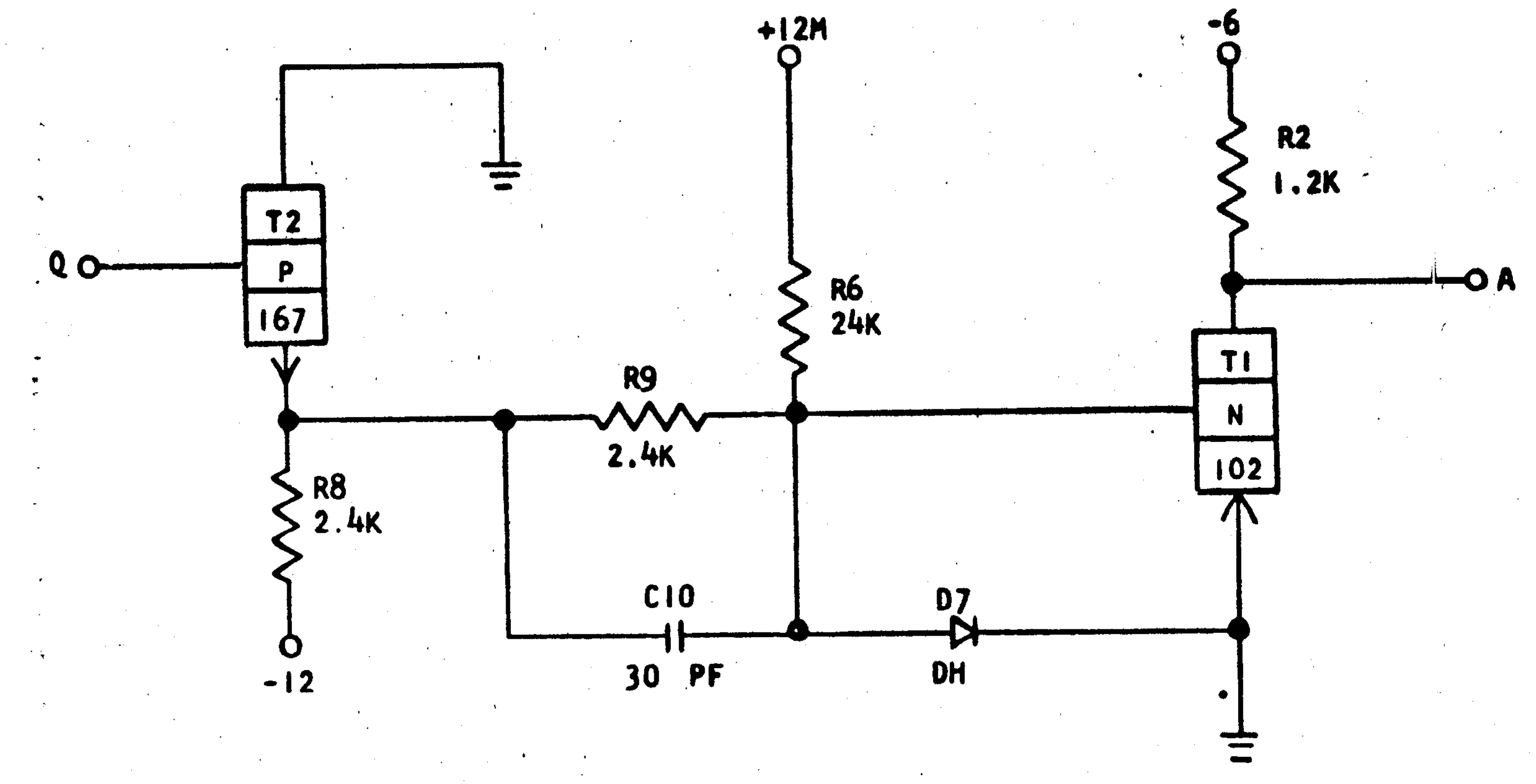
DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO	APPROVAL
9-22-60	110061	NOTE XVI			
11-19-60	110530	NOTE XVI			
3-9-61	111390	NOTE XVI			
9-18-62	112418	MDL			

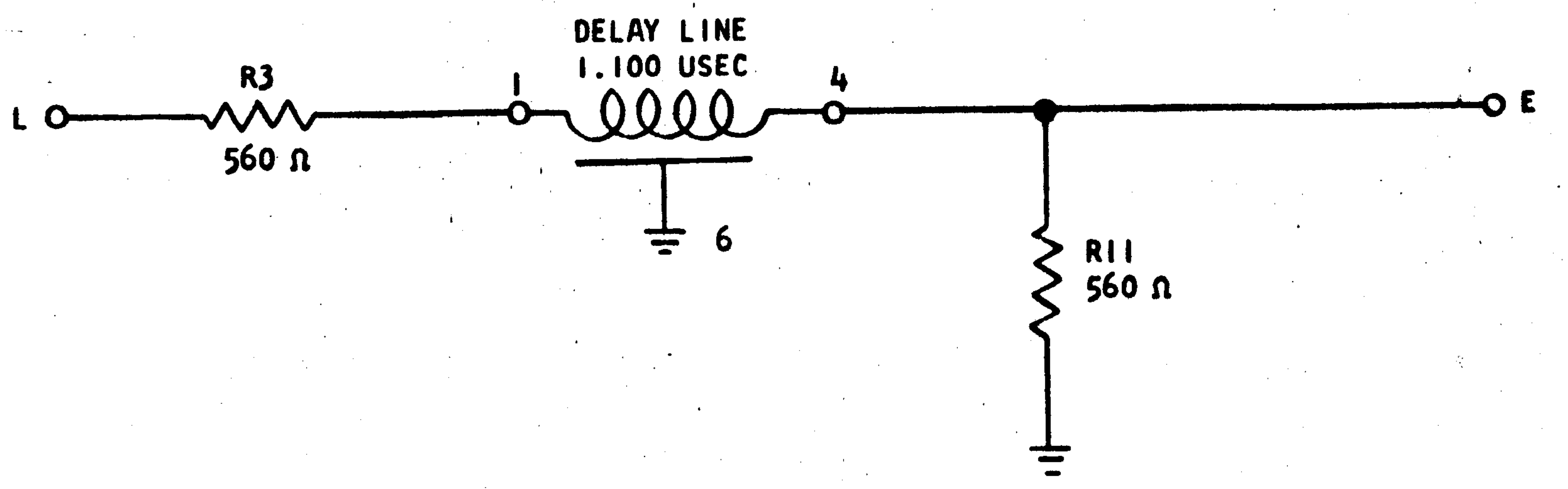
DEVELOPMENT NO.
X0586

370246

370248	DGG-
STANDARDS CODE	2-7045

SDTDL MEMORY 1.100 USEC DELAY LINE





NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892244

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999.

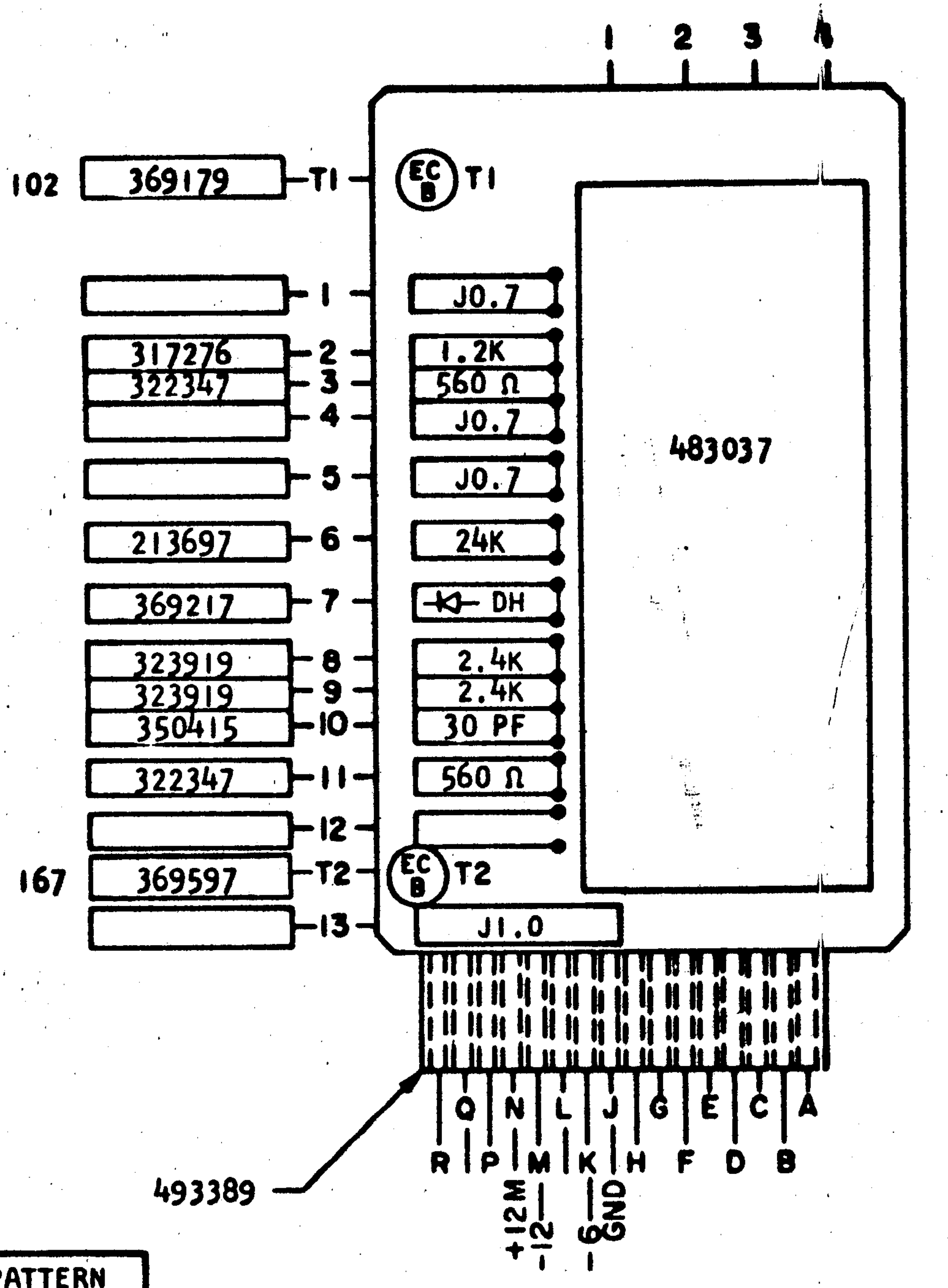
XII ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED.

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296.

XIV

XV MOUNT TRANSISTOR 369179 WITH TRANSISTOR SPACER 483070

XVI



COMPONENT SIDE

B o

CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
H D Horford	9-2-60

HOLE PATTERN
492672

INTERNATIONAL BUSINESS MACHINES CORP.			
NAME	CARD ASM TSTR-SDTDL MEMORY		
1.100 USEC DELAY LINE			
DESIGN		MODEL	SMS 1410
DETAIL	CB 9-21-60	SCALE	NONE
CHECK	CB 9-21-60	DRAW	VE 9-17-60
APPRO	GES 9-22-60	CHECK	CLW 9-19-60

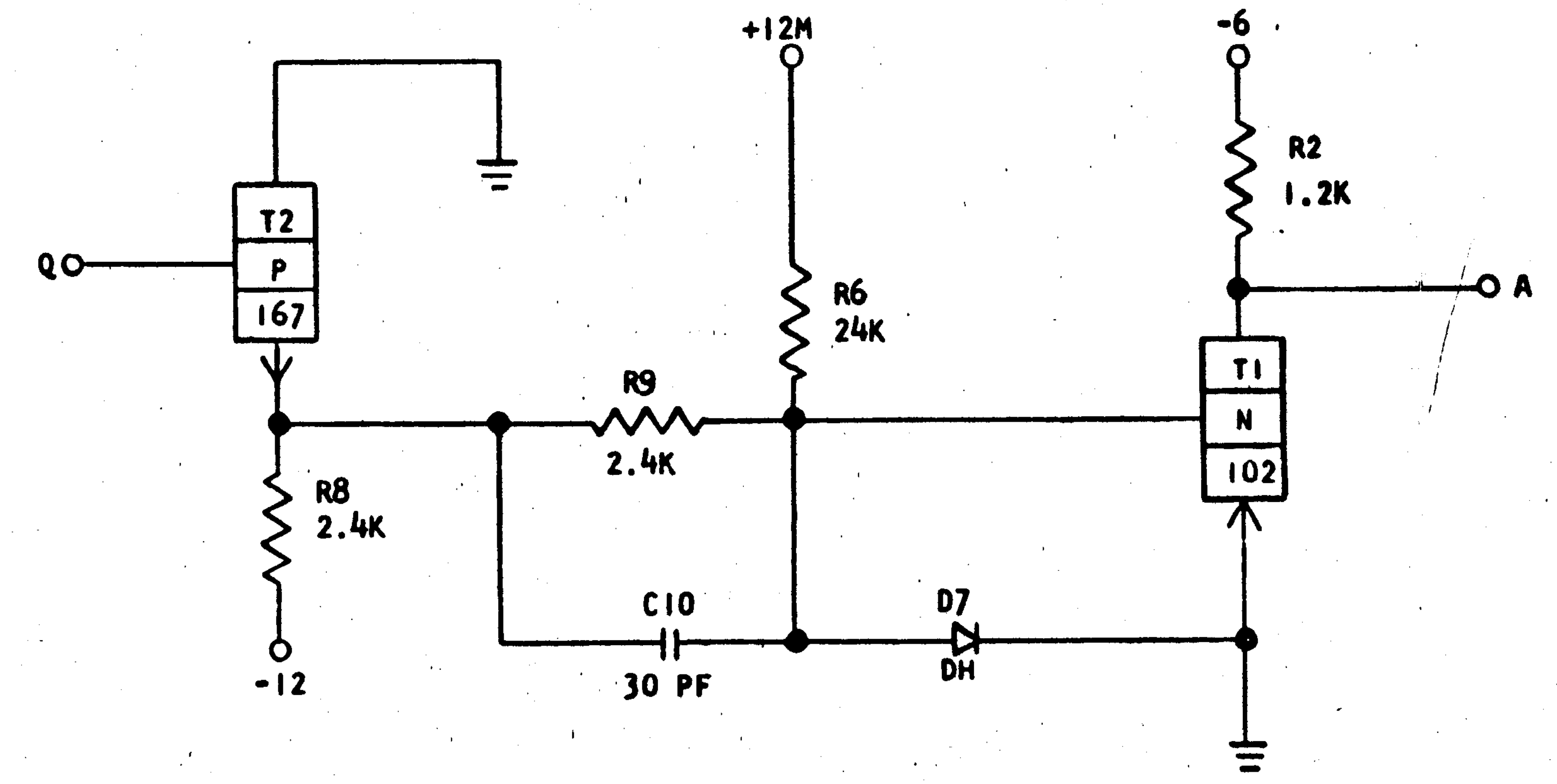
DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO	APPROVAL	DEVELOPMENT NO.
9-22-60	110061	NOTE XVI				X0584
11-19-60	110530	NOTE XVI				
3-9-61	111390	NOTE XVI				
9-18-62	112418	MDL				

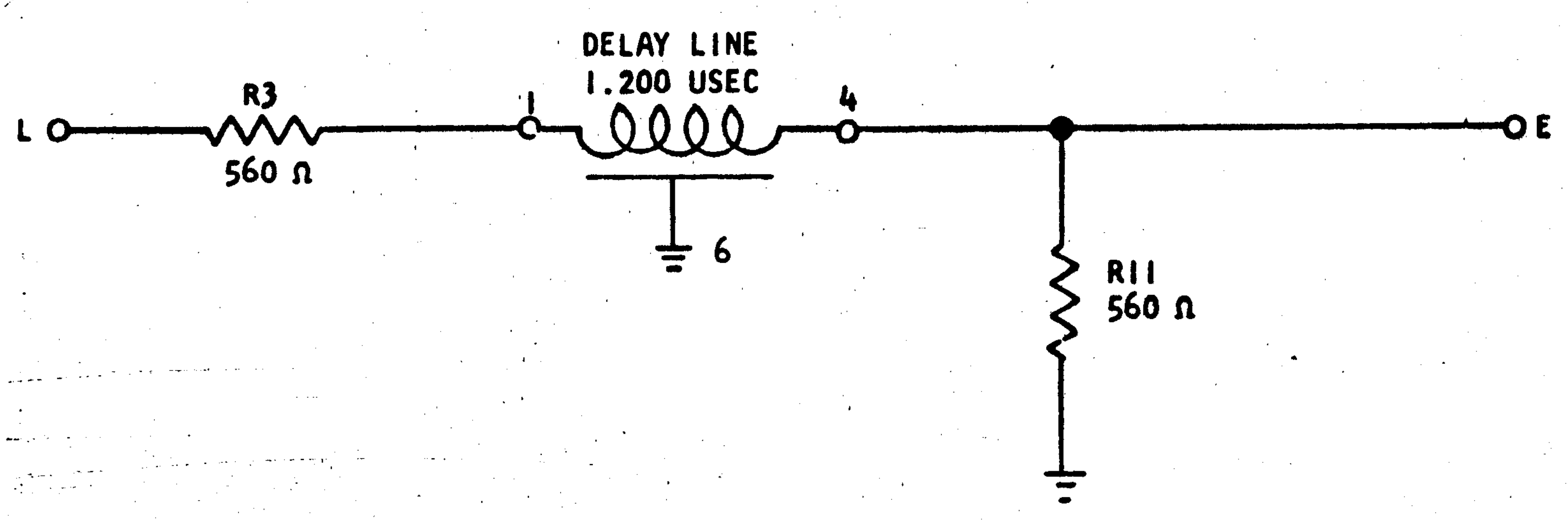
370249

370249
D G H -

STANDARDS CODE
2-7045

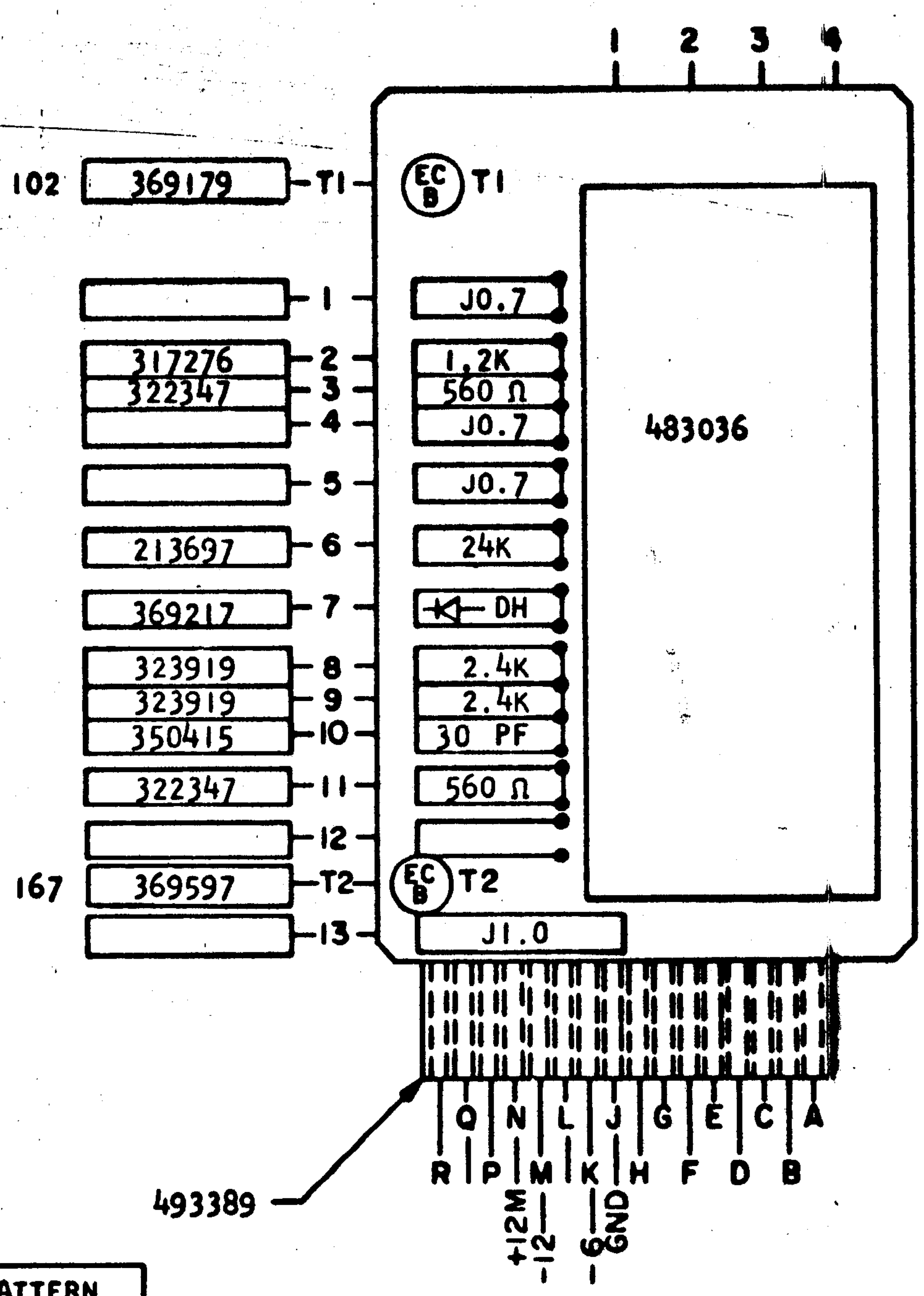
SDTDL MEMORY 1.200 USEC DELAY LINE





NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892244
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999.
- XII ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED.
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296.
- XIV
- XV MOUNT TRANSISTOR 369179 WITH TRANSISTOR SPACER 483070
- XVI



COMPONENT SIDE

B

CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
H D Hanford	9-2-60

HOLE PATTERN
492672

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR-SDTDL MEMORY 1.200 USEC DELAY LINE				
DESIGN			MODEL	SMS 1410	
DETAIL	CB	9-21-60	SCALE	NONE	
CHECK	CB	9-21-60	DRAW	VE	9-17-60
APPRO	BES	9-22-60	CHECK	CLW	9-19-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
9-22-60	110061	NOTE XVI				X0583
11-19-60	110530	NOTE XVI				
3-9-61	111390	NOTE XVI				
9-18-62	112418	MDL				

370249

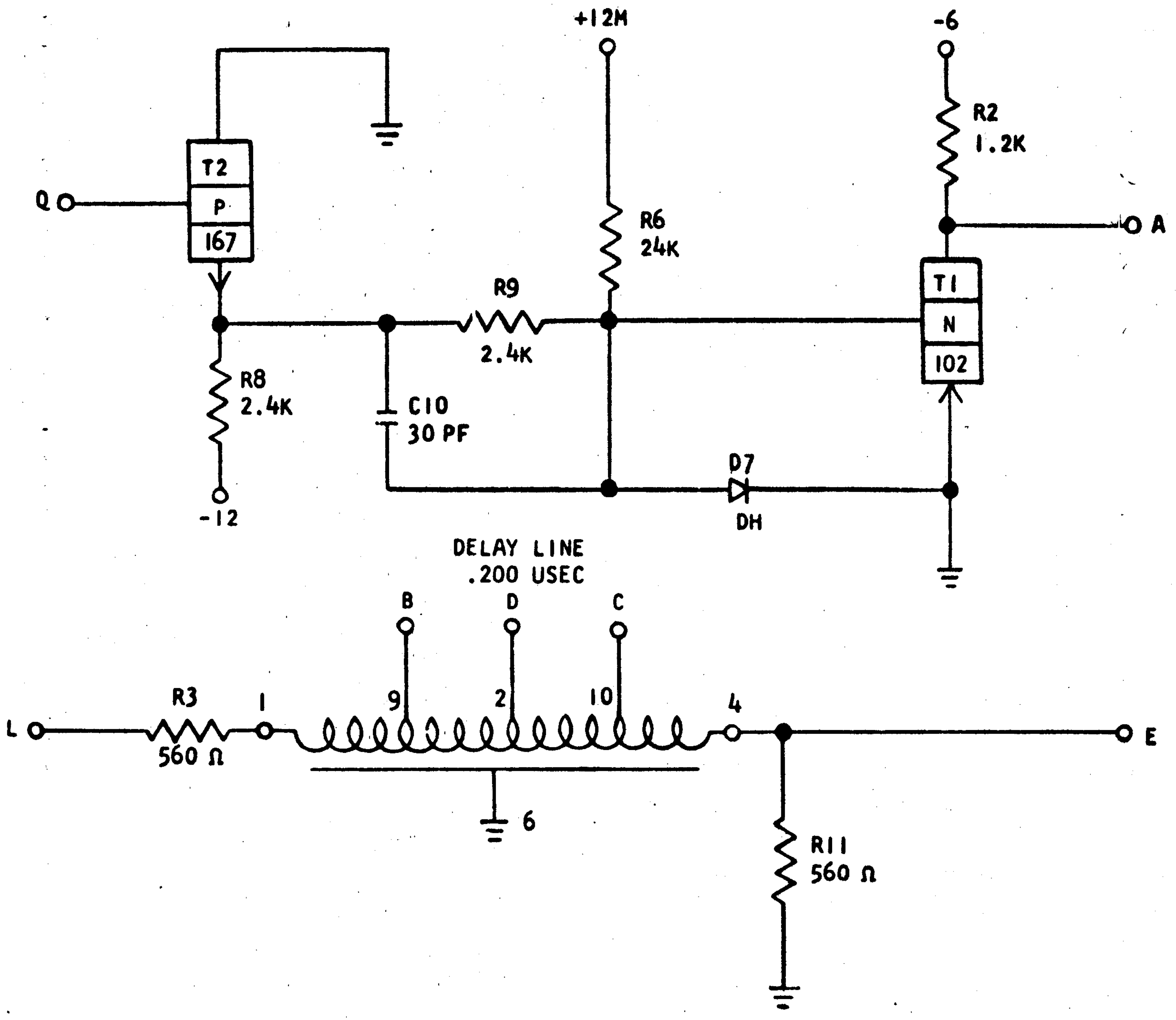
370250

D G J -

STANDARDS CODE 2-7045

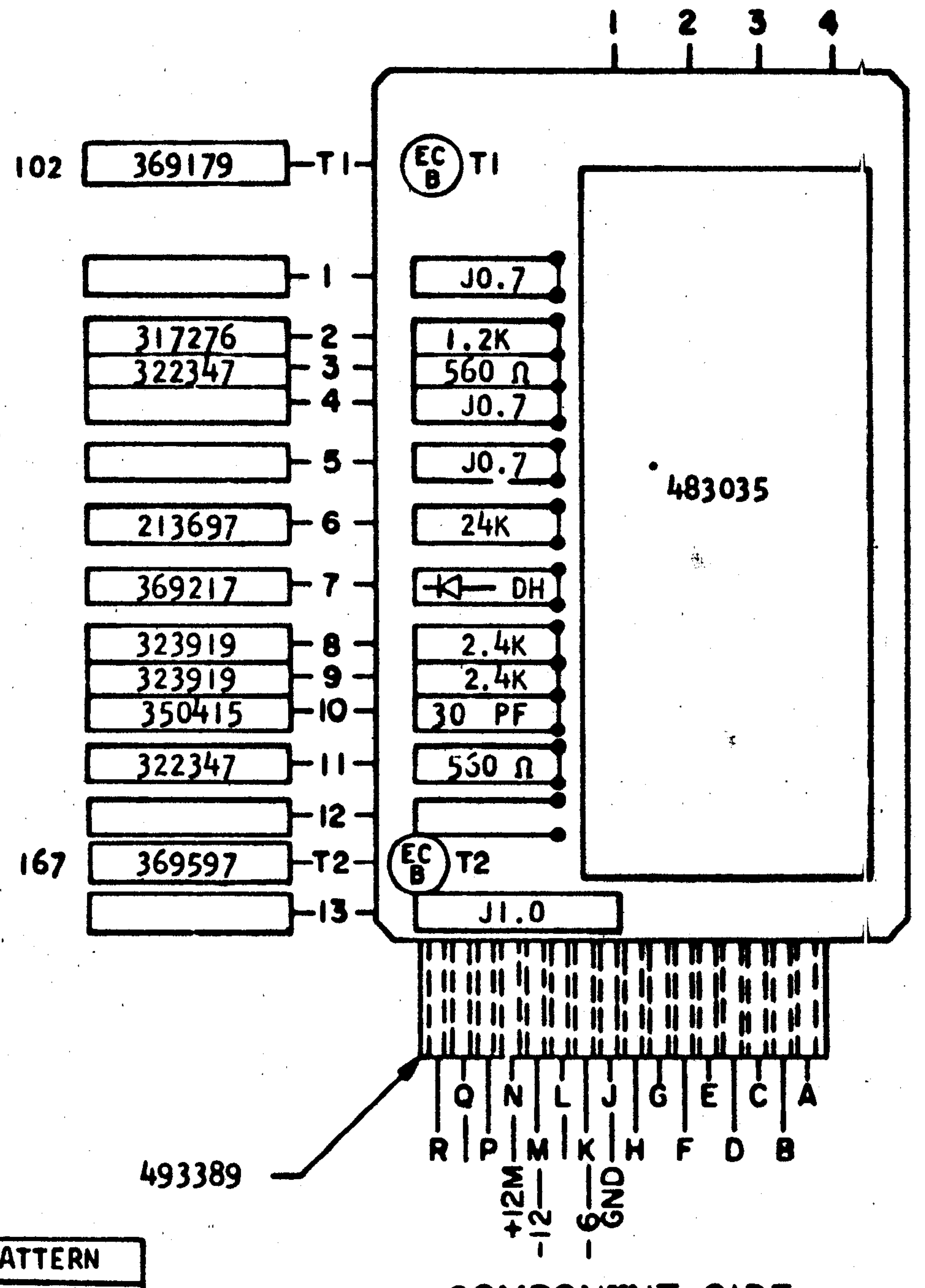
370250

SDTDL MEMORY .200 USEC DELAY LINE



NOTES

- **Ⅹ** CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892244
- **ⅩⅠ** ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999.
- **ⅩⅡ** ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED.
- **ⅩⅢ** "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296.
- **ⅩⅣ**
- **ⅩⅤ** MOUNT TRANSISTOR 369179 WITH TRANSISTOR SPACER 483070
- **ⅩⅥ**



COMPONENT SIDE

B

CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
H D Hanford	9-2-60

HOLE PATTERN
492672

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR-SDTDL MEMORY .200 USEC DELAY LINE				
DESIGN			MODEL	SMS 1410	
DETAIL	CB	9-21-60	SCALE	NONE	
CHECK	CB	9-21-60	DRAW	VE	9-17-60
APPRO	BES	9-22-60	CHECK	RCH	9-19-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
9-22-60	110061	NOTE XV				X0582
11-19-60	110530	NOTE XVI				
3-9-61	111390	NOTE XVI				
9-18-62	112418	MDL				

370250

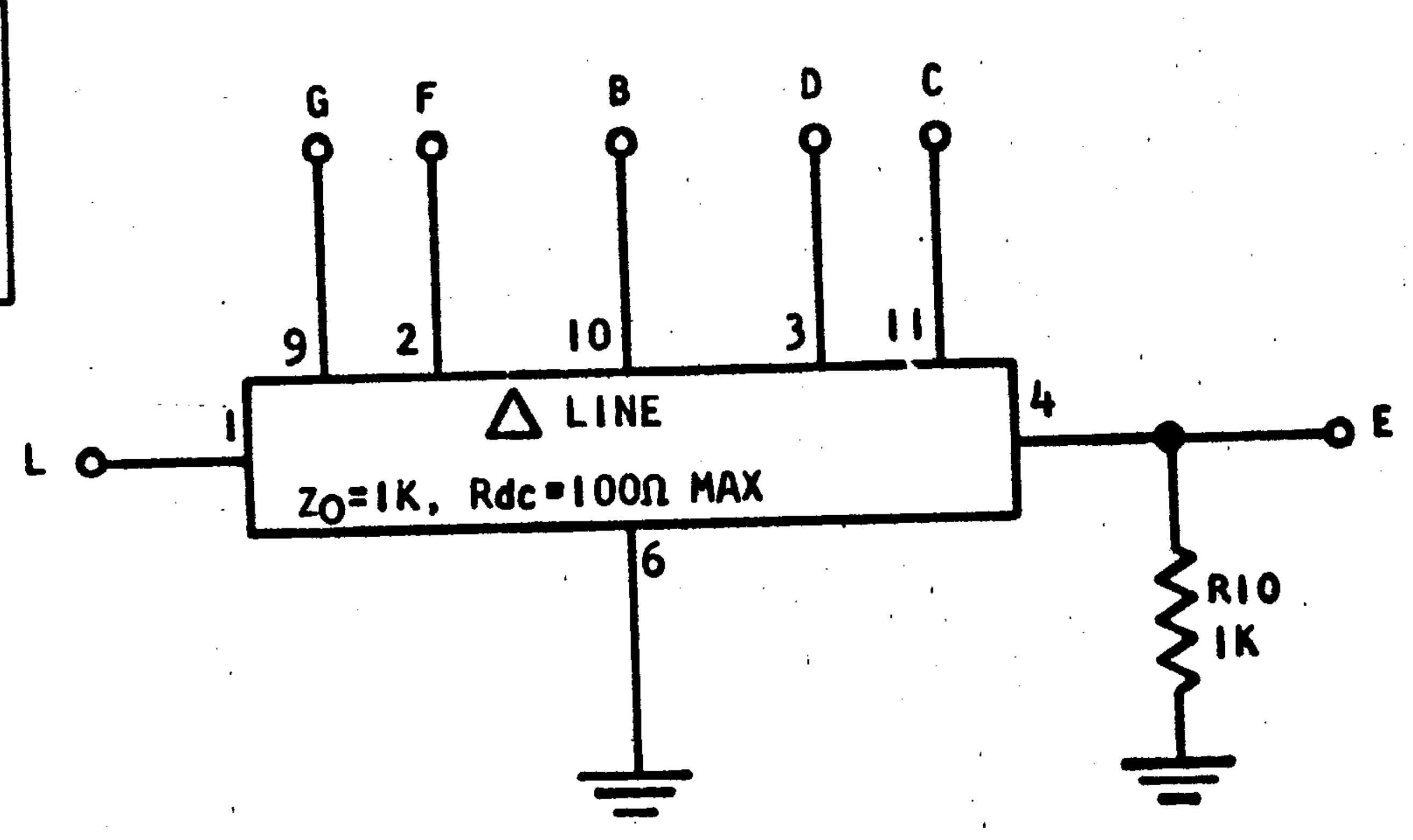
370251 DGK-

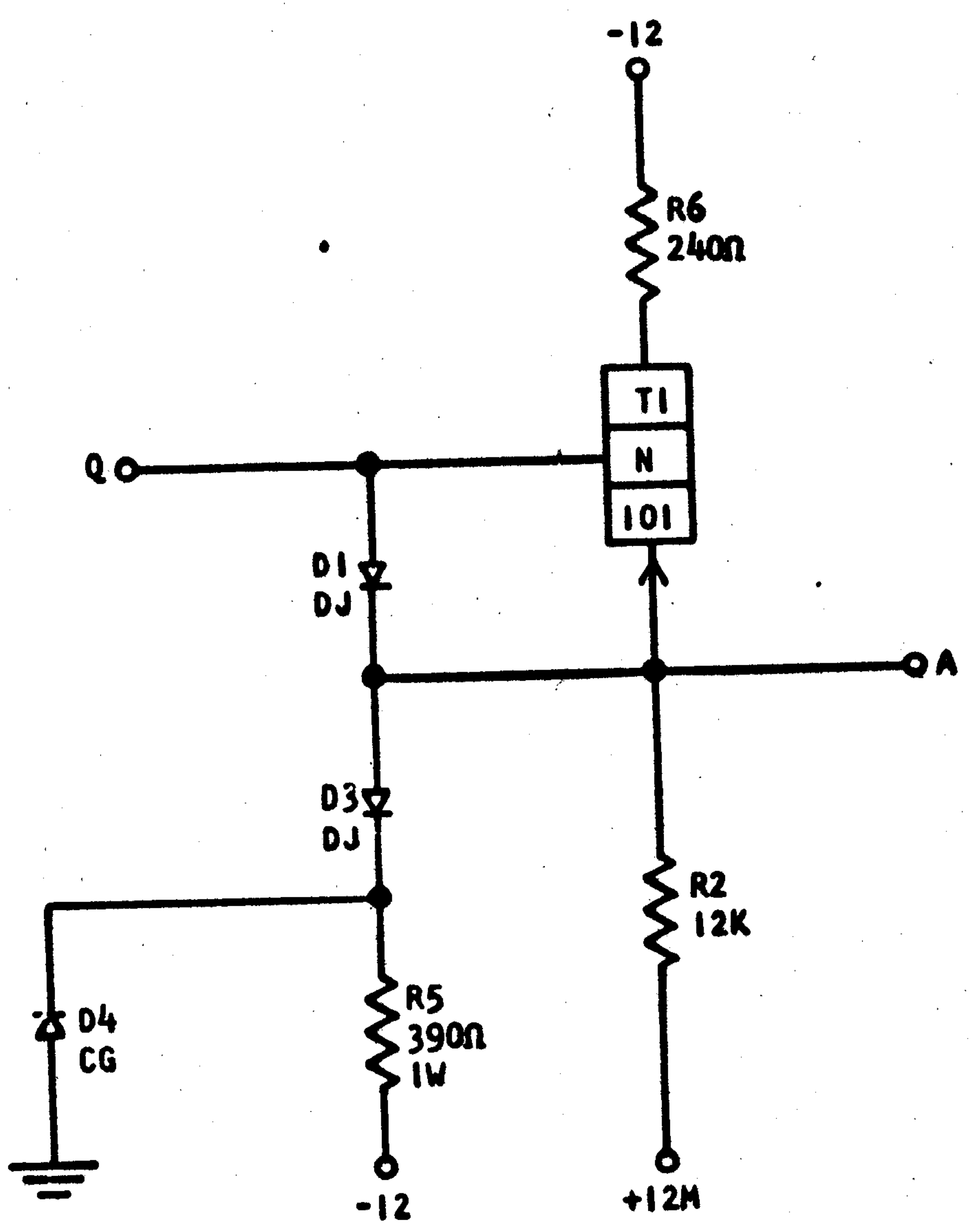
STANDARDS CODE 2-7045

DELAY LINE TAPPED

RESTRICTED
NOTE XV

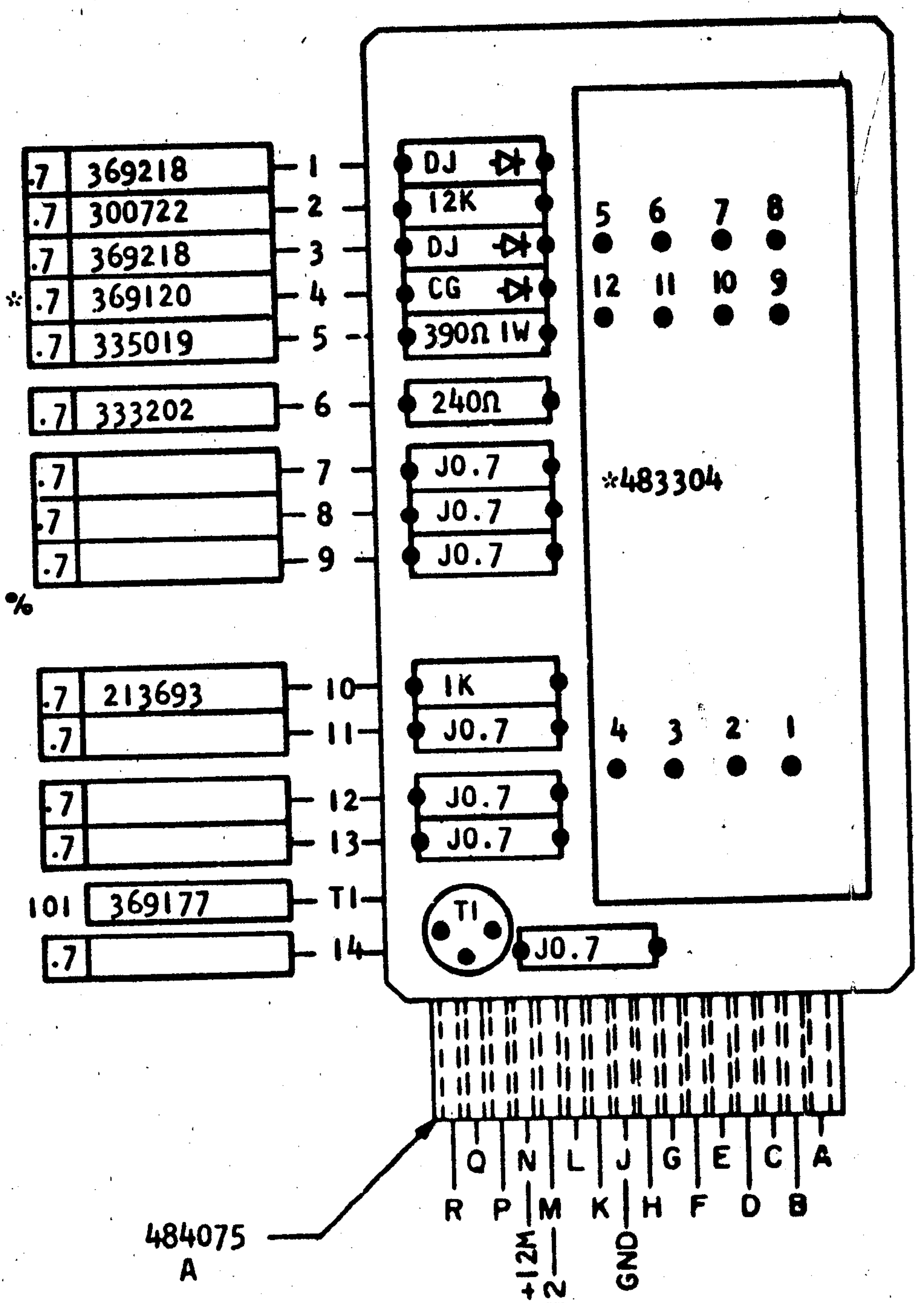
370251





DELAYS

WIRING EQ Td=370N SEC
WIRING CQ Td=350N SEC
WIRING DQ Td=330N SEC
WIRING BQ Td=310N SEC
WIRING FQ Td=290N SEC
WIRING GQ Td=270N SEC



COMPONENT SIDE

NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892251
- XI ASSEMBLE TO ENGINEERING SPEC 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV POSITION T1 IS A TO-18 TRANSISTOR WHICH WILL BE MOUNTED ON .100 PIN CIRCLE HOLES.
- * XV TECHNICAL LABORATORY EVALUATION INCOMPLETE. ADDITIONAL USAGE TO BE AVOIDED. THIS PART SUBJECT TO WITHDRAWAL.

B

DPD CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE

HOLE PATTERN
399447

INTERNATIONAL BUSINESS MACHINES CORP.
NAME CARD ASM TSTR - DELAY LINE TAPPED
CDA 12-7-62 MODEL SMS 1411
CDA 12-7-62 SCALE NONE
GRD 12-15-62 LIG 1-21-63
WJR 12-27-62 MTK 1-24-63

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
SEE INDEX CARD					
4-12-61.	111569	NOTE XV			
5-3-61	111803	NOTE XV			
12-12-61	113144	NOTE XV			
3-10-63	115904	NOTE XV			

DEVELOPMENT NO.
X0565

CKT FAMILY
SDTRL

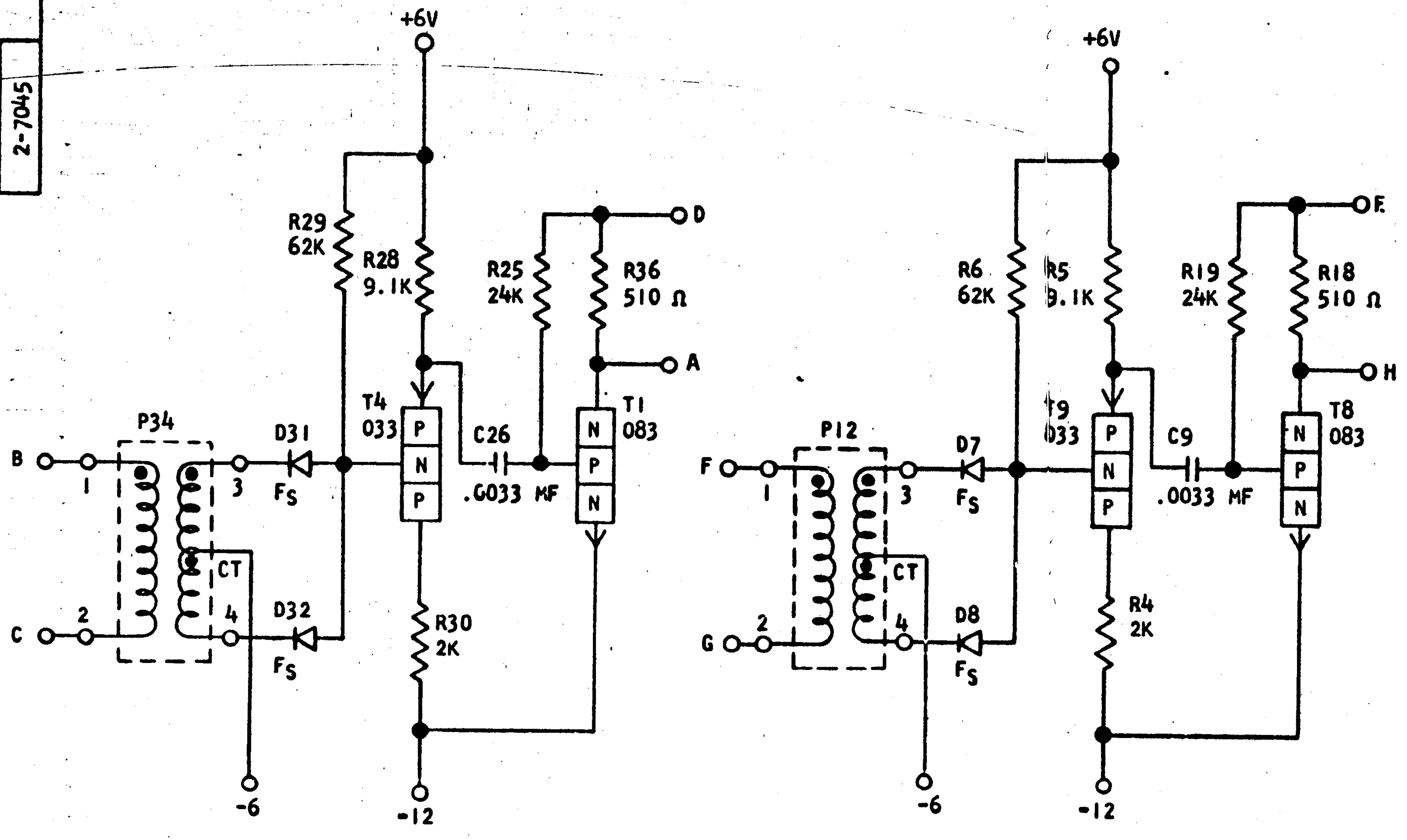
370251

370252	AER-
STANDARDS CODE	2-7045

370252

ALLOY-SENSE AMPLIFIER NUMBER 3

MOUNT CARD ON ONE INCH CENTERS NOTE XV



NOTES

I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892252

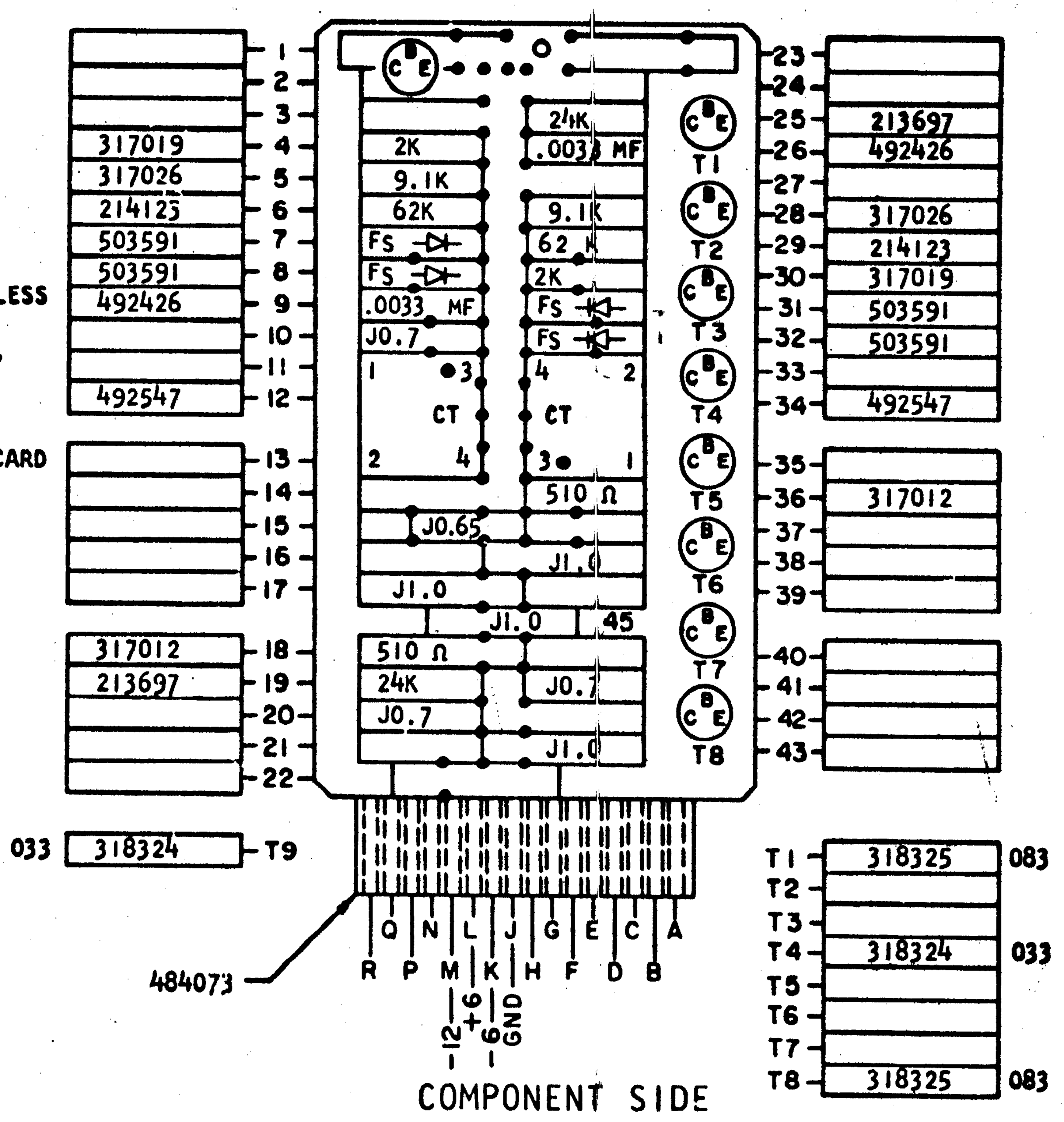
II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296

XIV

XV THE MAXIMUM HEIGHT THAT COMPONENTS MAY PROJECT ABOVE THE SURFACE OF THE CARD WILL BE .375



B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
Dale Brown G.S.M.	10.12.60

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- ALLOY- SENSE AMPLIFIER NUMBER 3			
DESIGN		TYPE	SMS	
DETAIL	AP 6-7-60	SCALE	NONE	
CHECK	AP 10-4-60	DRAW	VE	10-5-60
APPRO	BES 10.12.60	CHECK		

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
10-12-60	110152	IWB			
3-16-61	111391	IWB			

DEVELOPMENT NO. X0692A

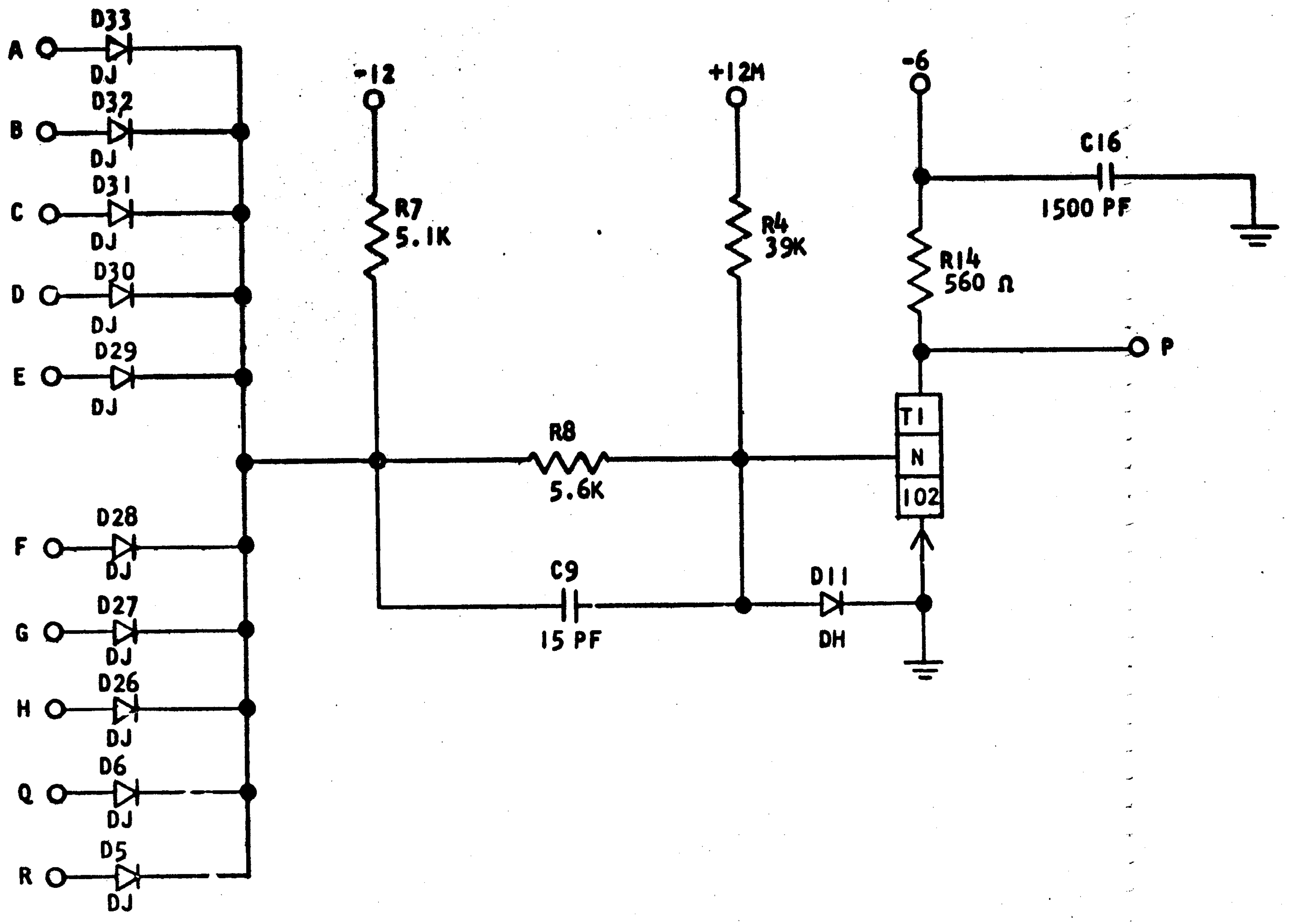
370252

RK

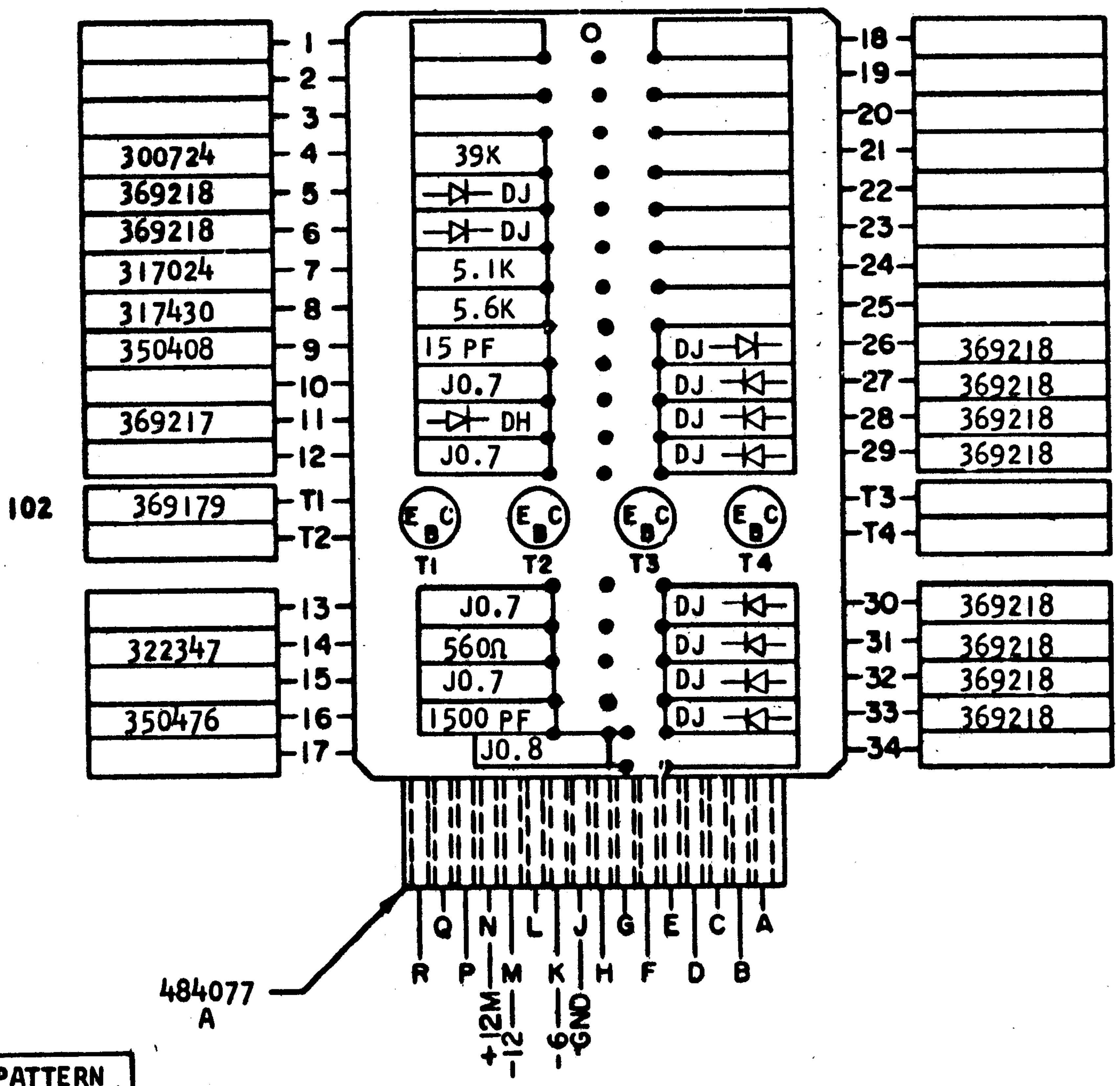
370253	D G L -
STANDARDS CODE	2-7045

370253

I-10 WAY LOGIC BLOCK



NOTES
- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892216
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- XIV
- XV
- XVI POSITION T1 IS A TO-18 TRANSISTOR WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING.



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H. B. Harford a.o.m.	10.12.60

HOLE PATTERN
491329

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR-			
I-10 WAY LOGIC BLOCK				
DESIGN			TYPE	SMS
DETAIL	AP	6-10-60	SCALE	NONE
CHECK	AP	10-4-60	DRAW	VE 10-5-60
APPRO	R.E.S.	10.12.60	CHECK	m// 11 5 60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
10-12-60	110152	NOTE XIV			
5-12-61	111245	NOTE XIV			
12-5-61	113104	NOTE XIV			
8-21-62	D114375	MDL			
12-30-63	119217	GWS			

DEVELOPMENT NO.
X0753A
CIRCUIT FAMILY
SDTDL

370253

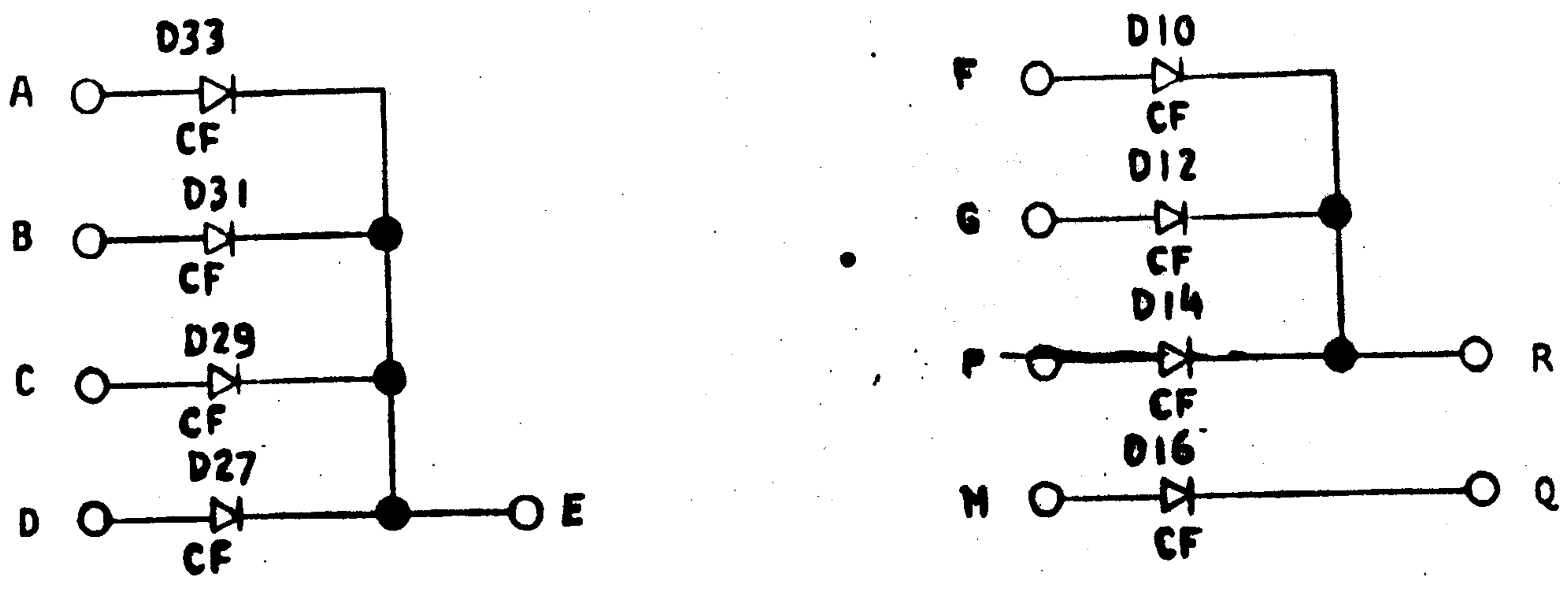
82-3977 8-24-60

370254

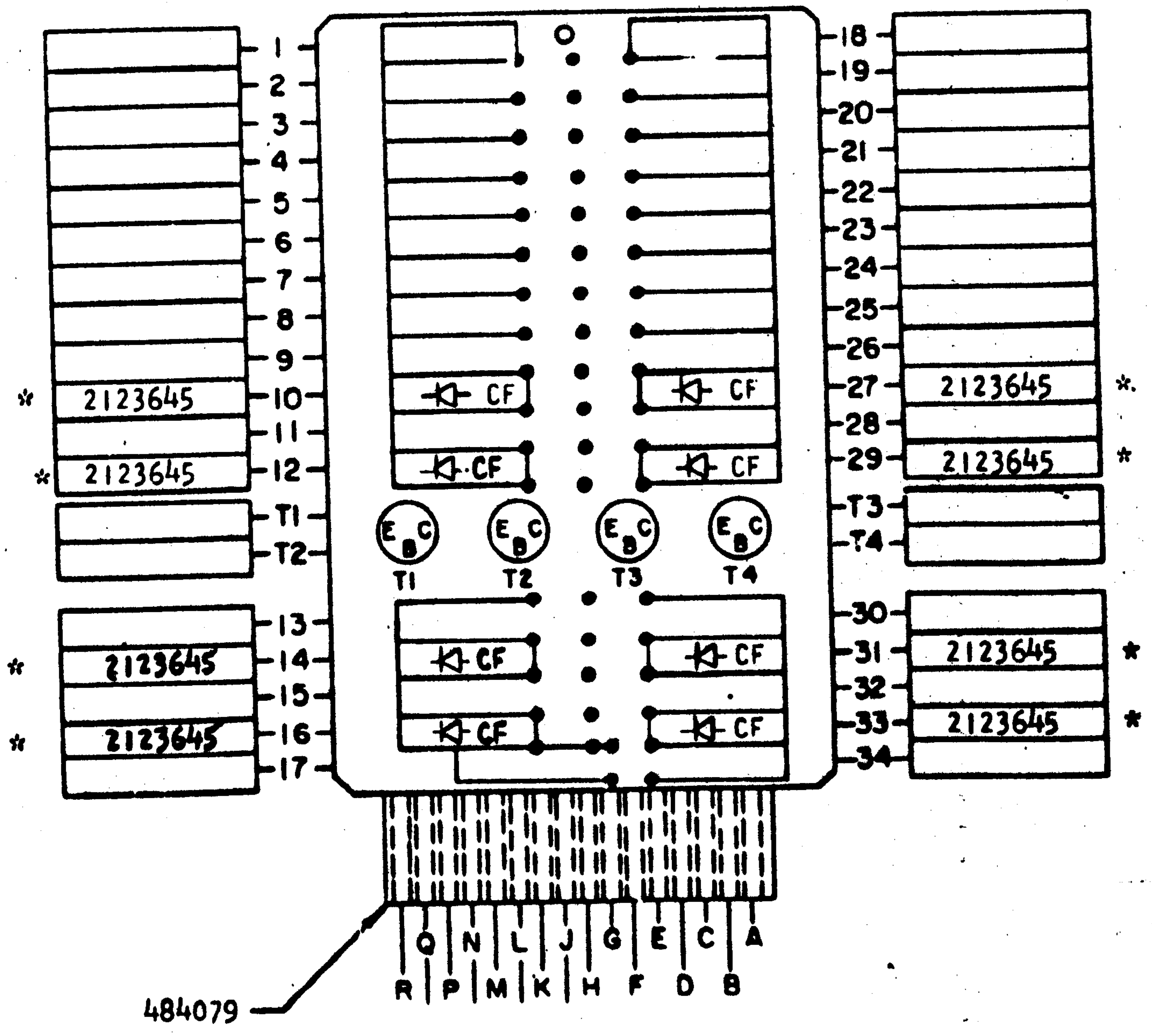
ALLOY DIODE CARD

RESTRICTED
NOTE XIV, XV

STANDARDS CODE	2-7045
370254	A E W -



NOTES
- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII
- XIII
- * XIV TECHNICAL LABORATORY EVALUATION INCOMPLETE. THIS PART SUBJECT TO WITHDRAWAL. ADDITIONAL USAGE TO BE AVOIDED.
- XV



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H.D. Ho. [illegible]	10-17-60

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR-ALLOY DIODE CARD				
DESIGN			TYPE	SMS 1410	
DETAIL	AP	10-19-60	SCALE	NONE	
CHECK	AP	10-19-60	DRAW	RCH	10-19-60
APPRO	BES		CHECK		

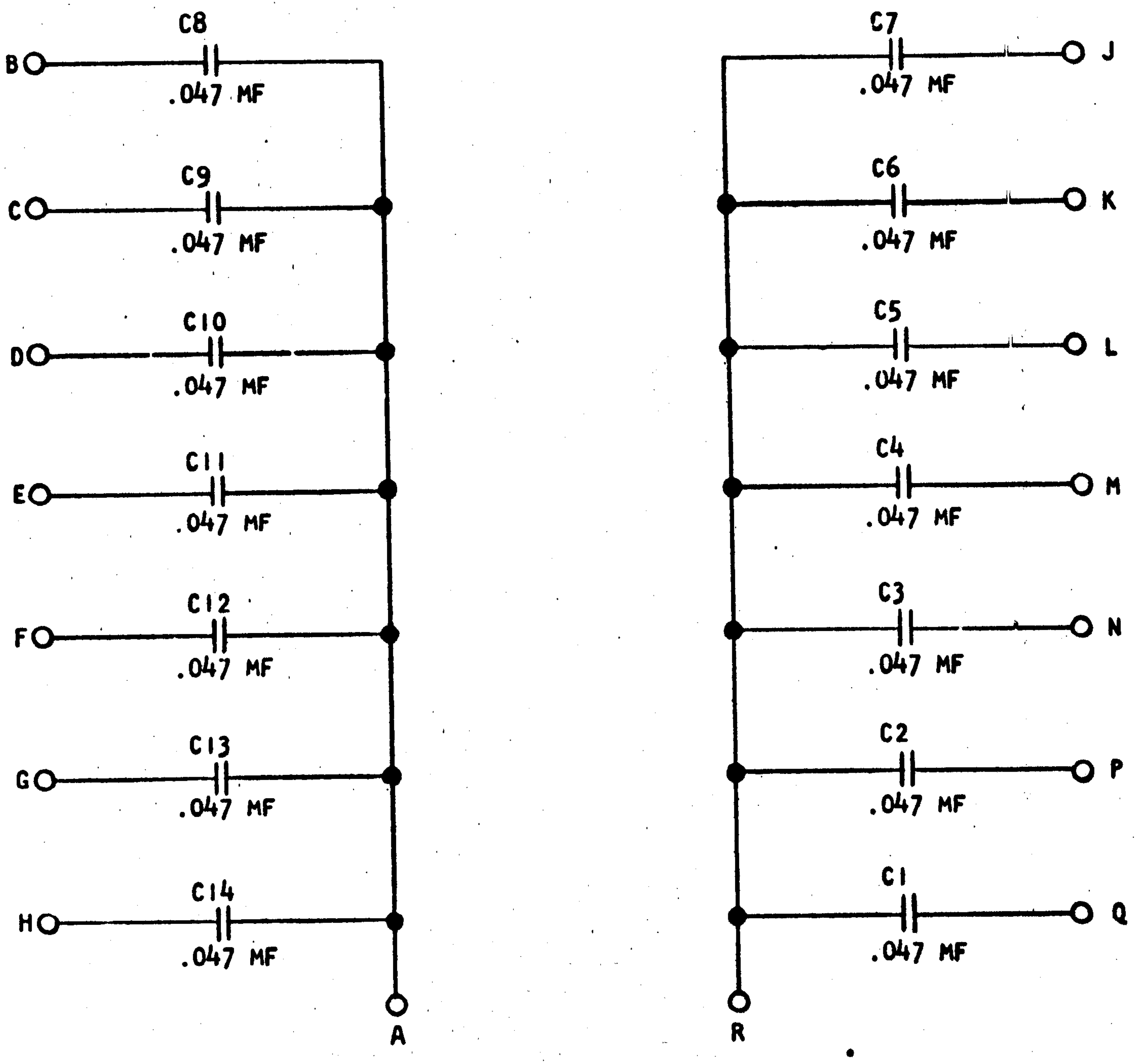
DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
10-21-60	110179	NOTE XIV				X0694
12-13-60	D110873	NOTE XIV				
3-6-61	111382	NOTE XIV				

370254

370255

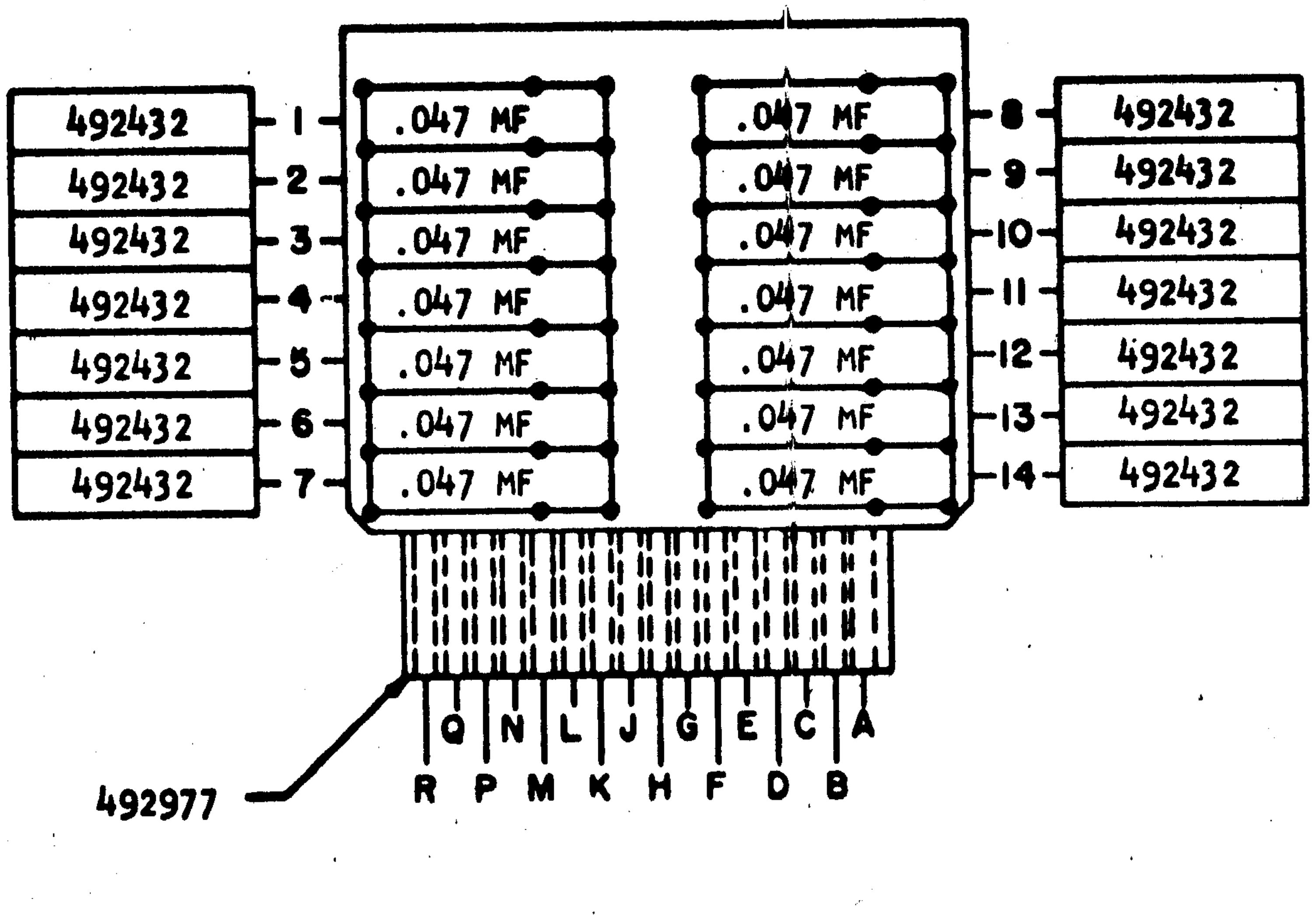
370255	A E T -
STANDARDS CODE	2-7045

CABLE FILTER CARD



NOTES

- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION
- II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999



COMPONENT SIDE

B

CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
H. G. Harford A.C.M.	10.12.60

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR- CABLE FILTER CARD				
DESIGN			MODEL	SMS 1410	
DETAIL	AP	10-11-60	SCALE	NONE	
CHECK	AP	10-11-60	DRAW	VE	10-10-60
APPRO	BES	10-12-60	CHECK	RCH	10-10-60

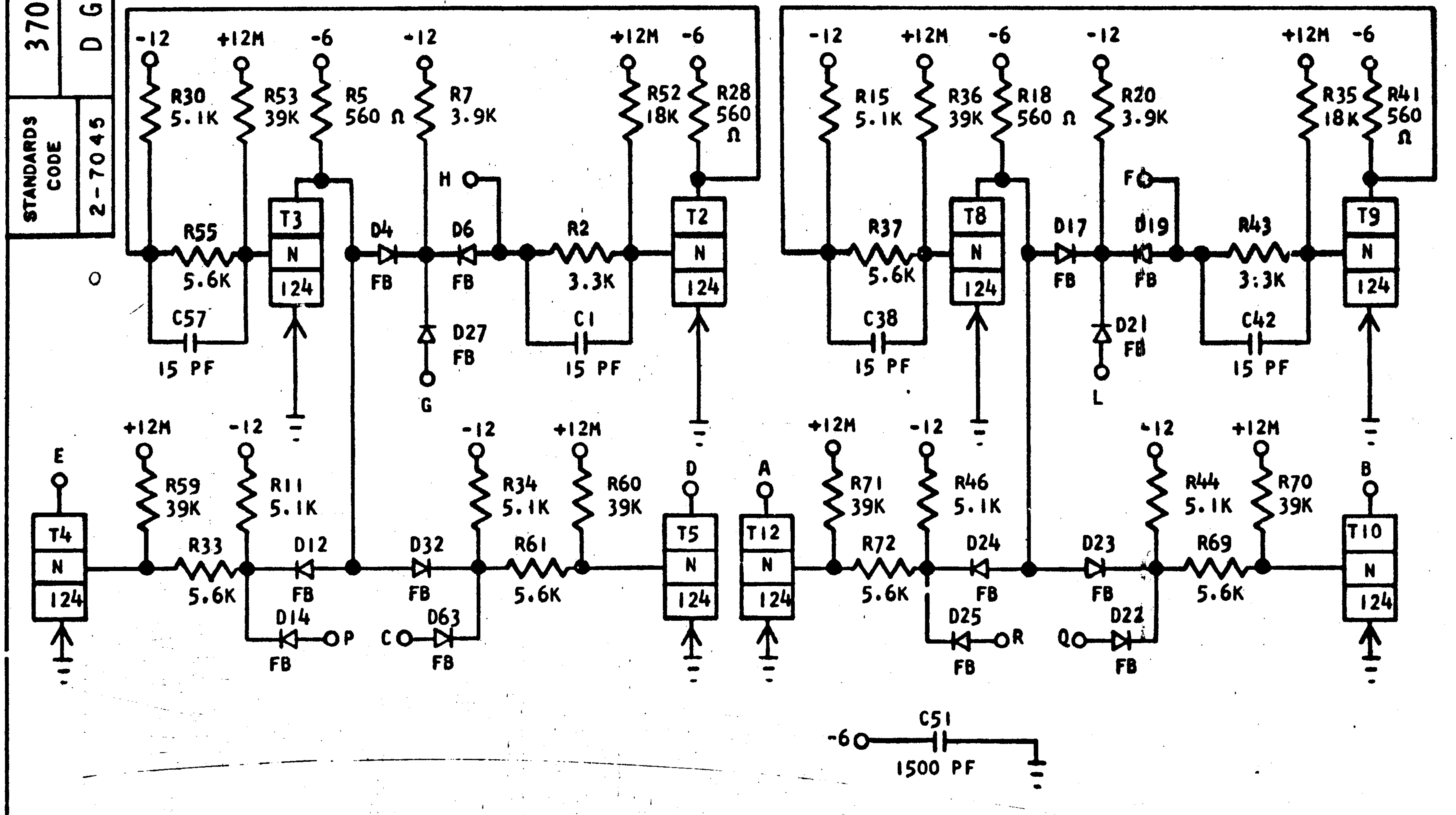
DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
10-12-60	110163	DWB				X0684

370255

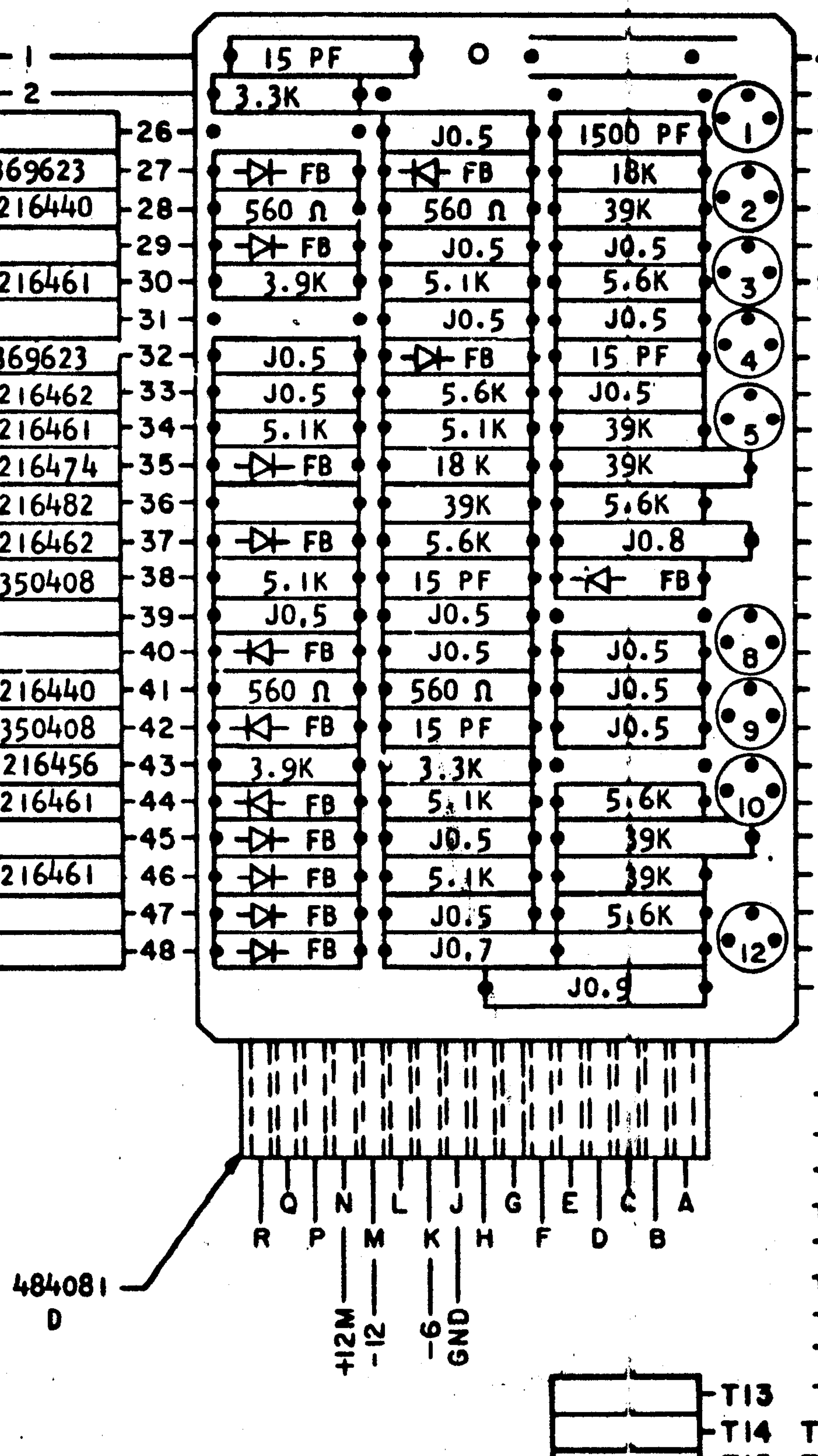
370256
D G M -
STANDARDS CODE
2-7045

MUP NO. 1 (MODIFIED)

370256
RESTRICTED
NOTE XV



		Pin			Pin
0.7	350408	1			
0.5	216456	2			
		3			26
0.5	369623	4	0.5	369623	27
0.5	216440	5	0.5	216440	28
0.5	369623	6			29
0.5	216458	7	0.5	216461	30
		8			31
		9	0.5	369623	32
		10	0.5	216462	33
0.5	216461	11	0.5	216461	34
0.5	369623	12	0.5	216474	35
		13	0.5	216482	36
0.5	369623	14	0.5	216462	37
0.5	216461	15	0.5	350408	38
		16			39
0.5	369623	17			40
0.5	216440	18	0.5	216440	41
0.5	369623	19	0.5	350408	42
0.5	216458	20	0.5	216456	43
0.5	369623	21	0.5	216461	44
0.5	369623	22			45
0.5	369623	23	0.5	216461	46
0.5	369623	24			47
0.5	369623	25			48



Pin		
49		
50		
51	350476	0.5
52	216474	0.5
53	216482	0.5
54		
55	216462	0.5
56		
57	350408	0.5
58		
59	216482	0.5
60	216482	0.8
61	216462	0.5
62		
63	369623	0.5
64		
65		
66		
67		
68		
69	216462	0.5
70	216482	0.8
71	216482	0.5
72	216462	0.5
73		
74		

T1		
T2	369656	124
T3	369656	124
T4	369656	124
T5	369656	124
T6		
T7		
T8	369656	124
T9	369656	124
T10	369656	124
T11		
T12	369656	124

	T13
	T14
	T15
	T16

NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892256
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/4 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV POSITIONS T2, T3, T4, T5, T8, T9, T10 AND T12 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING.
- XV RESTRICTED TO 1410 USAGE ONLY.

COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H D H GS	11-9-60

HOLE PATTERN
493460

INTERNATIONAL BUSINESS MACHINES CORP.			
NAME	CARD ASM TSTR -		
	MUP NO. 1 (MODIFIED)		
DESIGN		MODEL	SMS 1410
DETAIL	AP 10-21-60	SCALE	NONE
CHECK	AP 10-21-60	DRAW	HAV 5-18-62
APPRO	GWS 9-20-62	CHECK	AP 5-21-62

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
SEE INDEX CARD					
1-18-62	D113652	NOTE XIV			
9-9-62	113953	MDL			
4-10-63	116155	MDL			

DEVELOPMENT NO.
X0546A
CIRCUIT FAMILY
SDTDL

370256

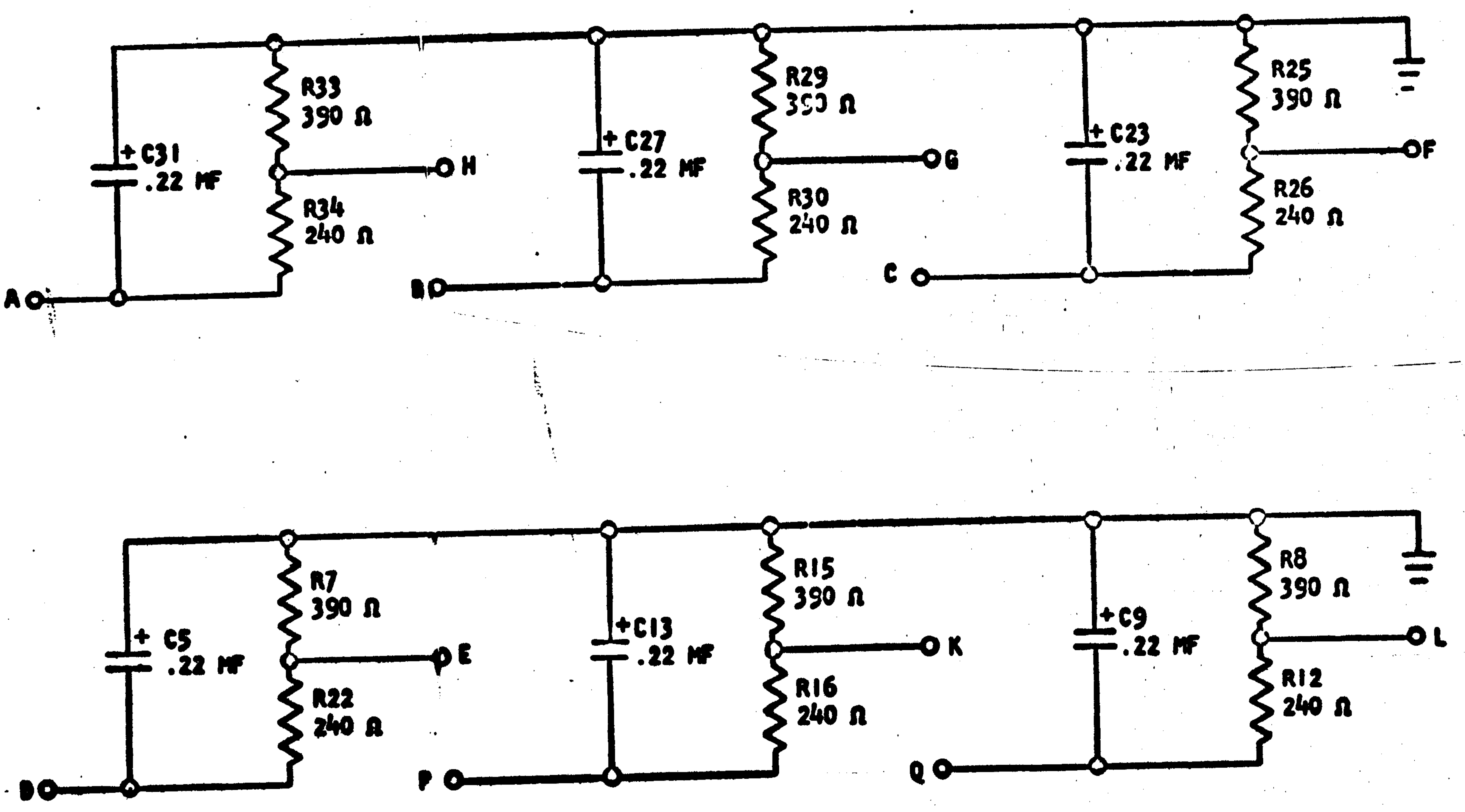
82-4003-1 6-22-61

370257

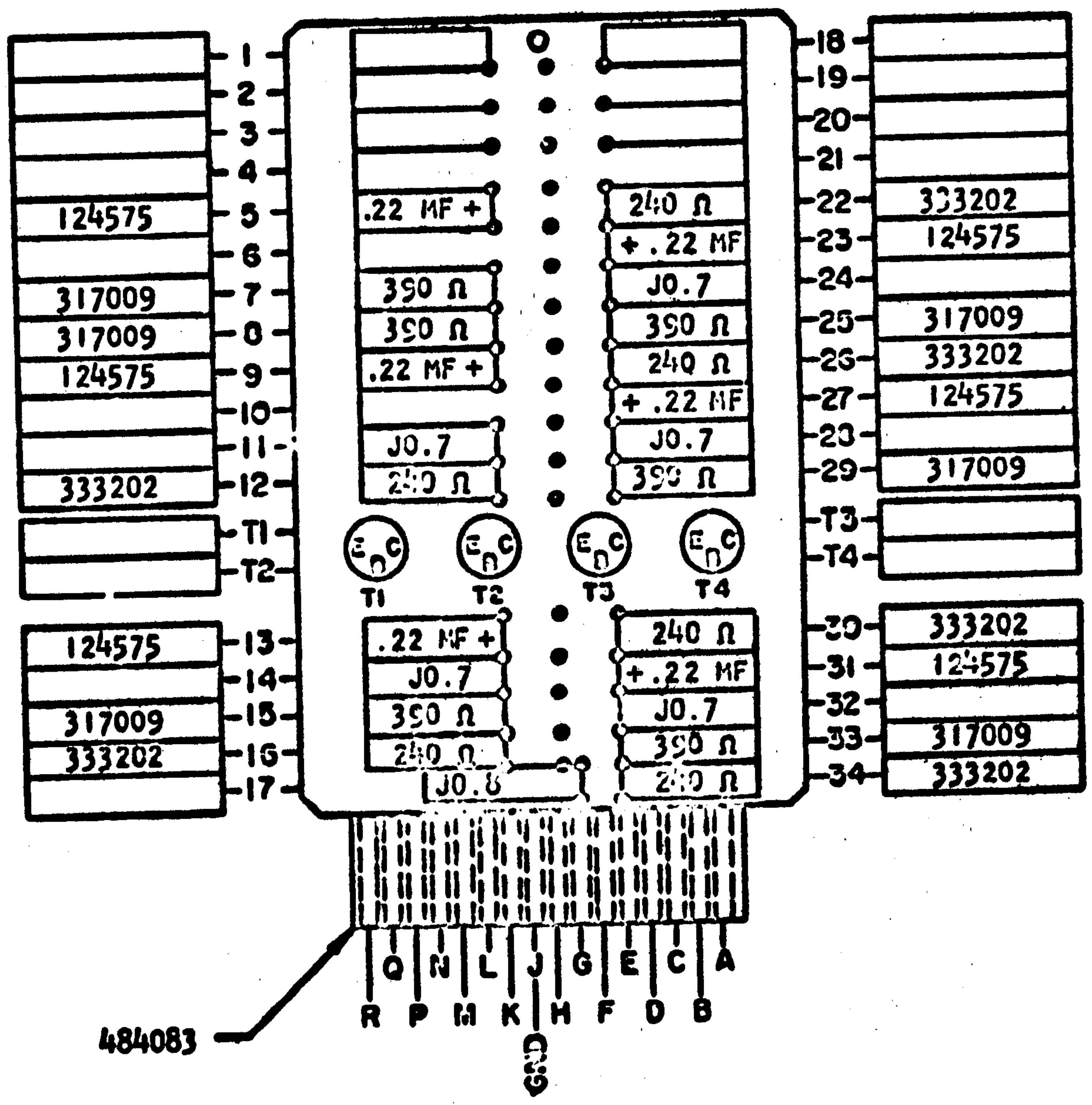
STANDARDS CODE 2-7045

370257 DGN-

SDTRL CAM INTEGRATOR



NOTES
- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892257
- II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER. 491296



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H. B. Hanford	11-1-60

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- SDTRL CAM INTEGRATOR			
DESIGN			TYPE	SMS 1410
DETAIL	AP	11-14-60	SCALE	NONE
CHECK	AP	11-14-60	DRAW	VE 11-15-60
APPRD	BES	11-19-60	CHECK	RW 11-15-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
11-19-60	110520	DWB				X0771

370257

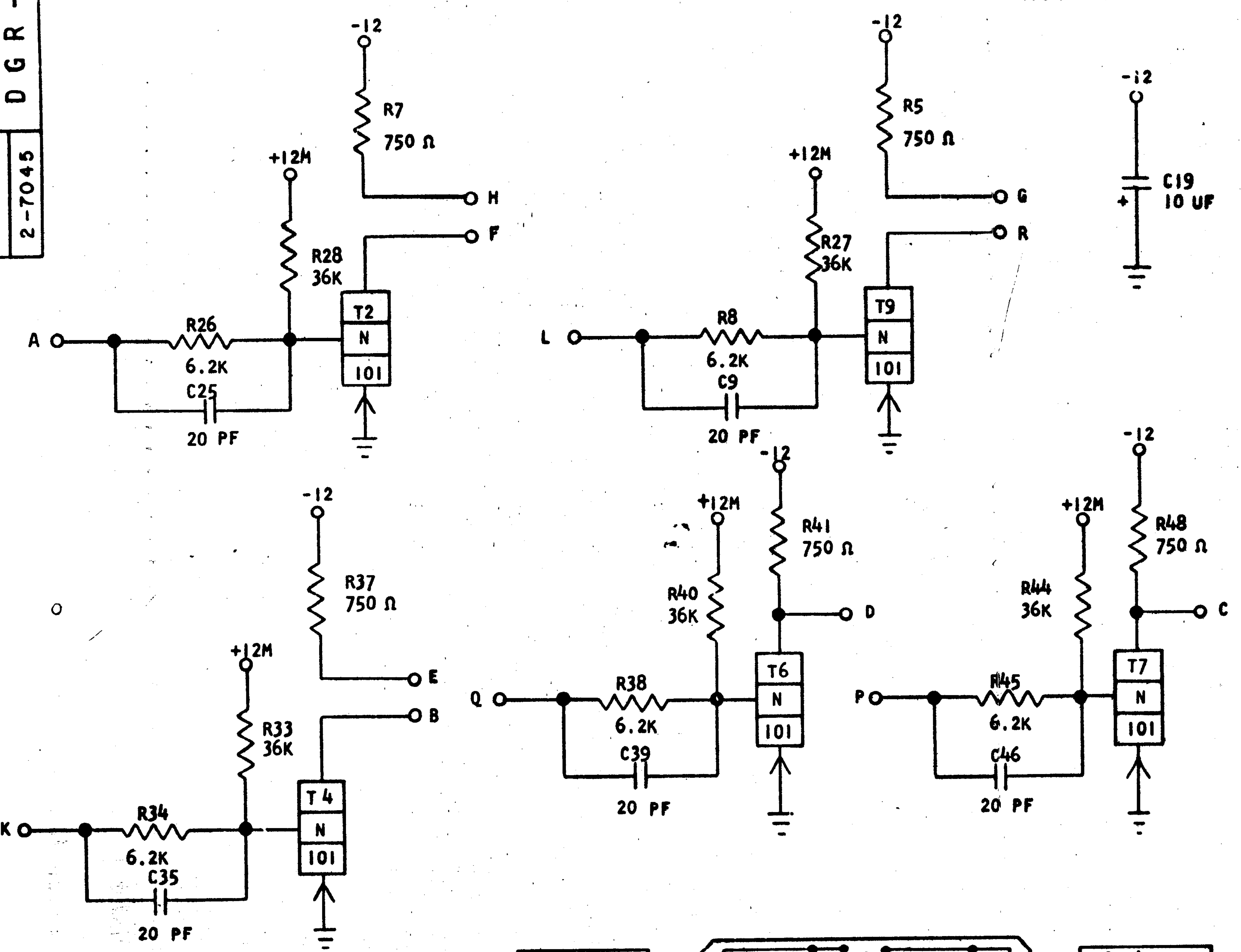
K K

370258	D G R -
STANDARDS CODE	2-7045

370258

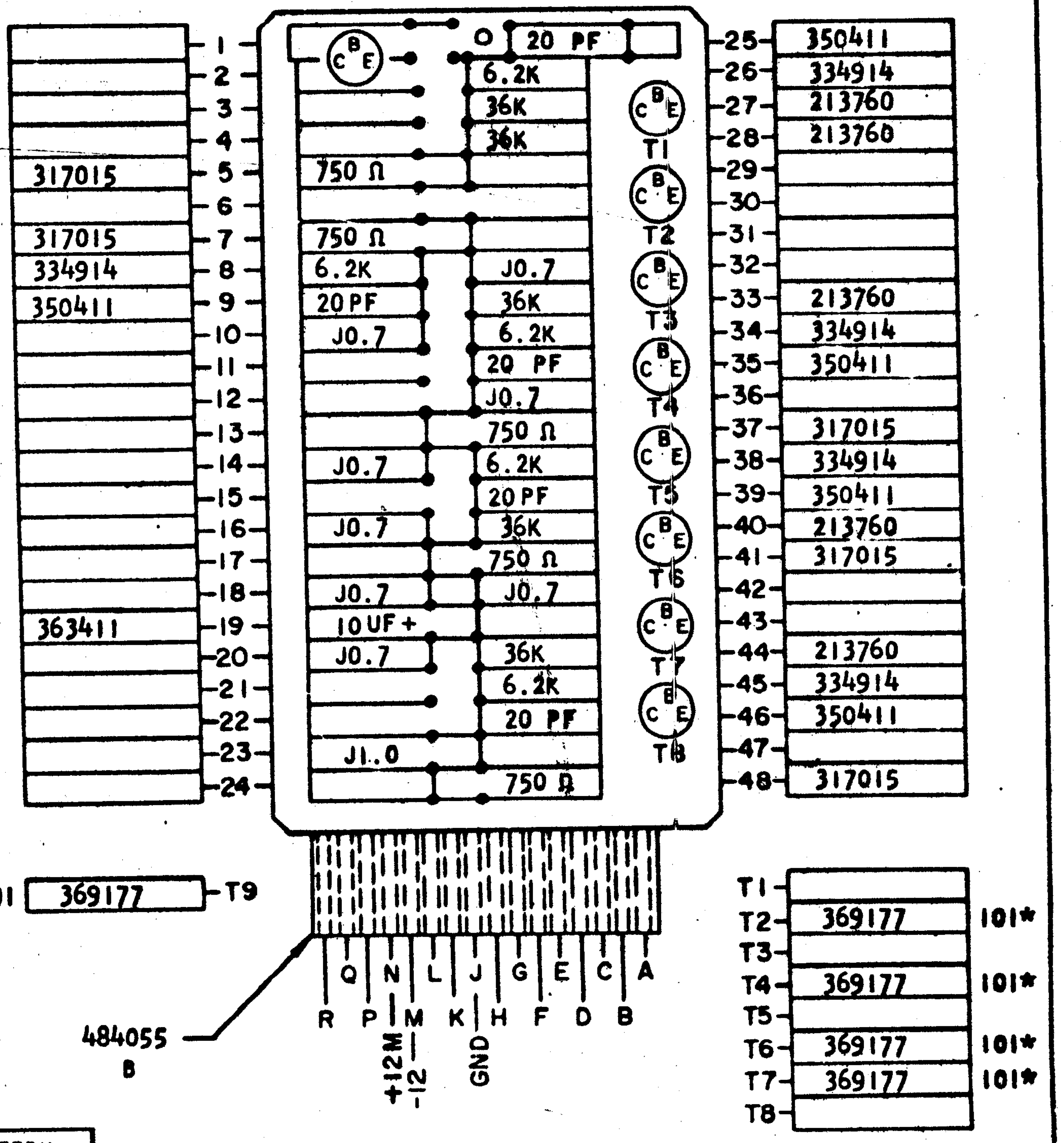
SDTRL COMPENSATED LOGIC INVERTER

RESTRICTED
NOTE XIV



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892258
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- * XIV TECHNICAL LABORATORY EVALUATION INCOMPLETE ADDITIONAL USAGE TO BE AVOIDED. THIS PART SUBJECT TO WITHDRAWAL
- XV
- XVI POSITIONS T2,T4,T6,T7,T9, ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. SEE REFERENCE DRAWING 493842. USE TRANSISTOR SPACER 483070 AS REQUIRED.



1	
2	
3	
4	
5	317015
6	
7	317015
8	334914
9	350411
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	363411
20	
21	
22	
23	
24	

25	350411
26	334914
27	213760
28	213760
29	
30	
31	
32	
33	213760
34	334914
35	350411
36	
37	317015
38	334914
39	350411
40	213760
41	317015
42	
43	
44	213760
45	334914
46	350411
47	
48	317015

*101 369177 T9

T1		
T2	369177	101*
T3		
T4	369177	101*
T5		
T6	369177	101*
T7	369177	101*
T8		

COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H. D. L'a. fo. [illegible]	11-15-60

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR - SDTRL COMPENSATED LOGIC INVERTER			
DESIGN			TYPE	SMS 1410
DETAIL	AP	11-18-60	SCALE	NONE
CHECK	AP	11-18-60	DRAW	
APPRO	[illegible]	11-	CHECK	BM 11-21-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
11-29-60	110532	NOTE XIV			
3-9-61	111390	NOTE XIV			
5-3-61	111803	NOTE XIV			
7-28-61	D112393	NOTE XIV			
6-7-62	113941	NOTE XIV			

DEVELOPMENT NO.
X0564

370258

KK

370259

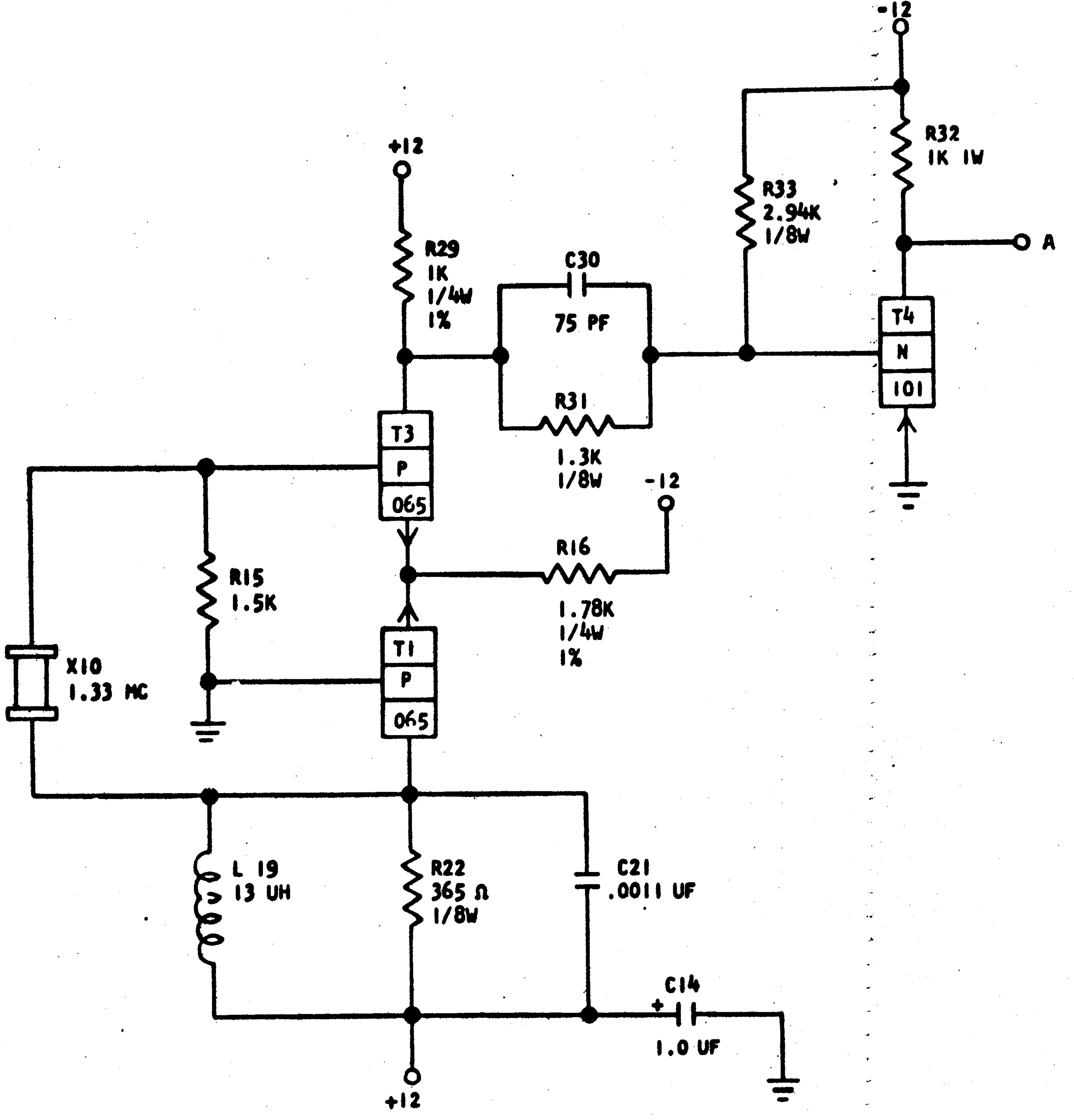
T C V -

STANDARDS CODE 2-7045

SDTRL - 1.33 MC CRYSTAL OSCILLATOR

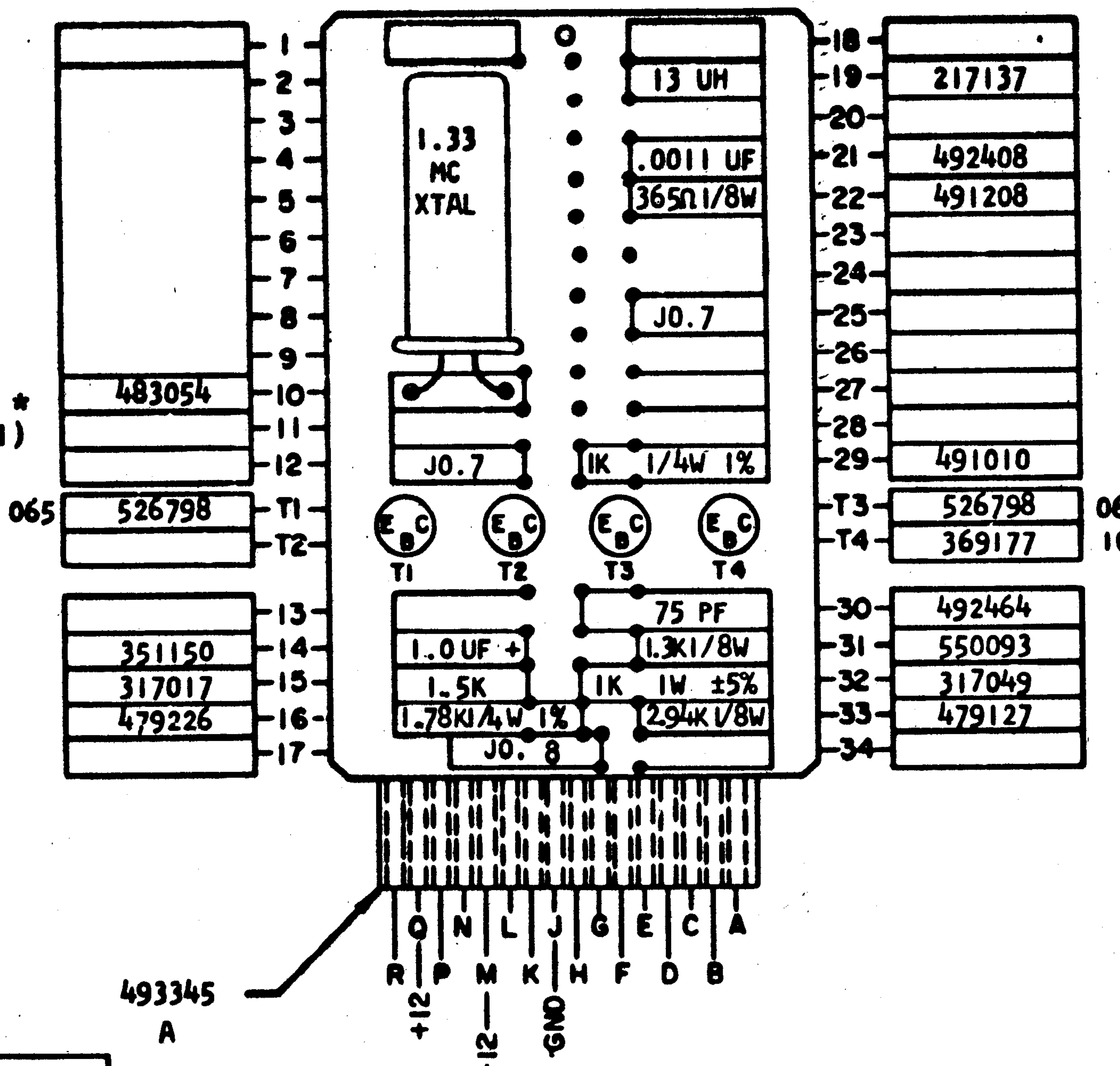
370259

RESTRICTED NOTE XVII



NOTES

- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892259
- II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED(AS NOTE XIV)
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- XIV ALL 1/8 WATT RESISTORS ARE 1%
- * XV APPLY SUFFICIENT AMOUNT OF EPOXY (100601) TO PROVIDE A MINIMUM .12 FILLET ALONG BOTH SIDES OF CRYSTAL WHEN PRESSED TO CARD. CURE EPOXY AT 170°F±5°F FOR MINIMUM 30 MINUTES MAXIMUM 60 MINUTES
- XVI
- XVII RESTRICTED TO 1410 USAGE ONLY
- XVIII POSITION T4 IS A TO-18 TRANSISTOR WHICH MAY BE MOUNTED ON .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER, 483070 FOR .200 PIN CIRCLE MOUNTING.
- XIX CRYSTAL 483054 MUST NOT BE SUBJECTED TO SOLDER MILLING OPERATION.



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT	11-1-60

HOLE PATTERN
491329

INTERNATIONAL BUSINESS MACHINES CORP.			
NAME	CARD ASM TSTR-SDTRL-1.33 MC CRYSTAL OSCILLATOR		
DESIGN PP	9-28-60	TYPE	SMS 1410
DETAIL PP	9-28-60	SCALE	NONE
CHECK DAS	10-25-60	DRAW VE	11-28-60
APPRO BES	11-30-60	CHECK GFM	11-29-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
11-30-60	110549	NOTE XVI	8-28-63	117802	MDL	2547-1354
3-9-61	111390	NOTE XVI				
4-13-61	D111553	NOTE XVI				
5-19-61	112017	NOTE XVI				
11-7-62	114364	MDL				

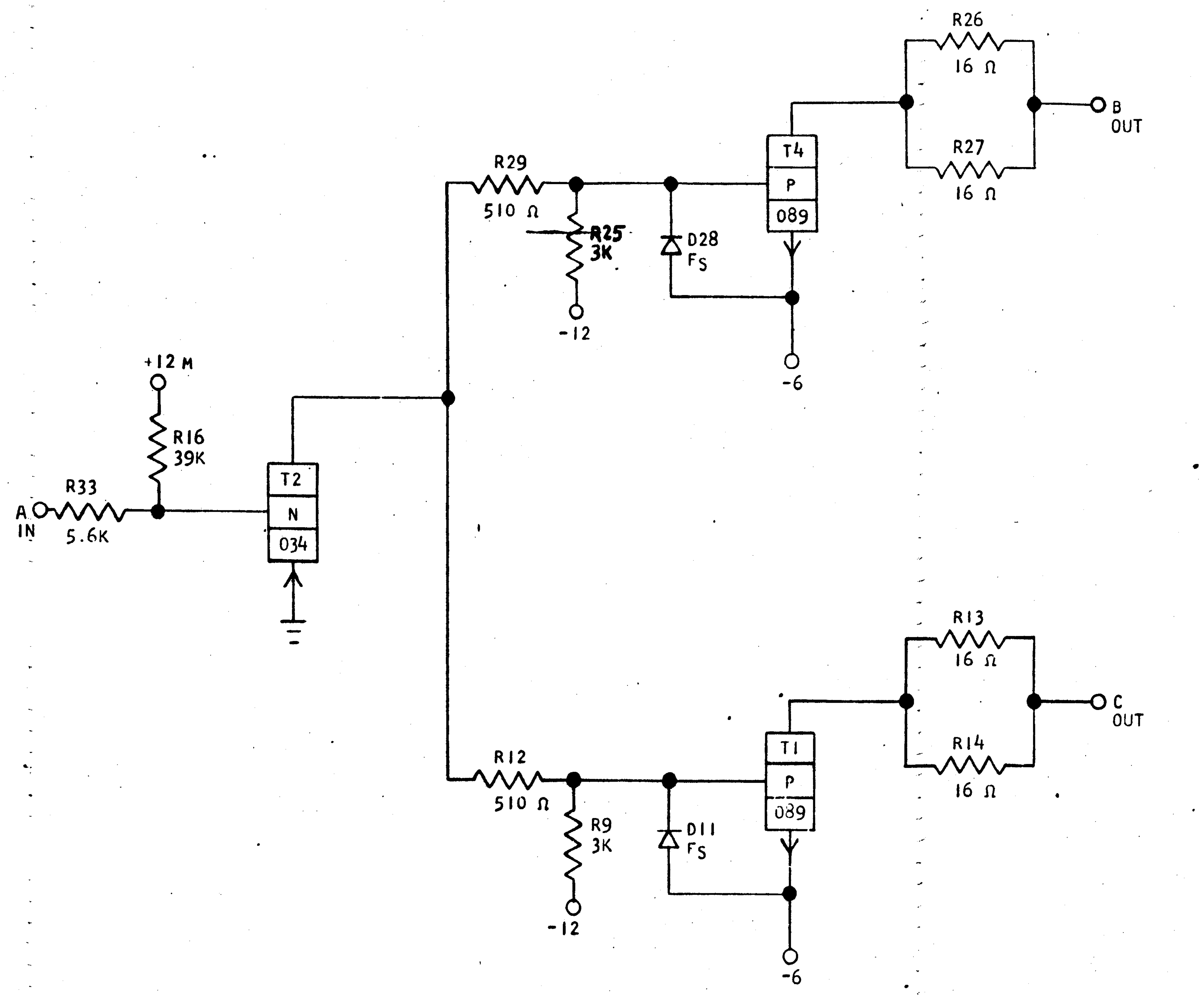
370259

370260

A J D -

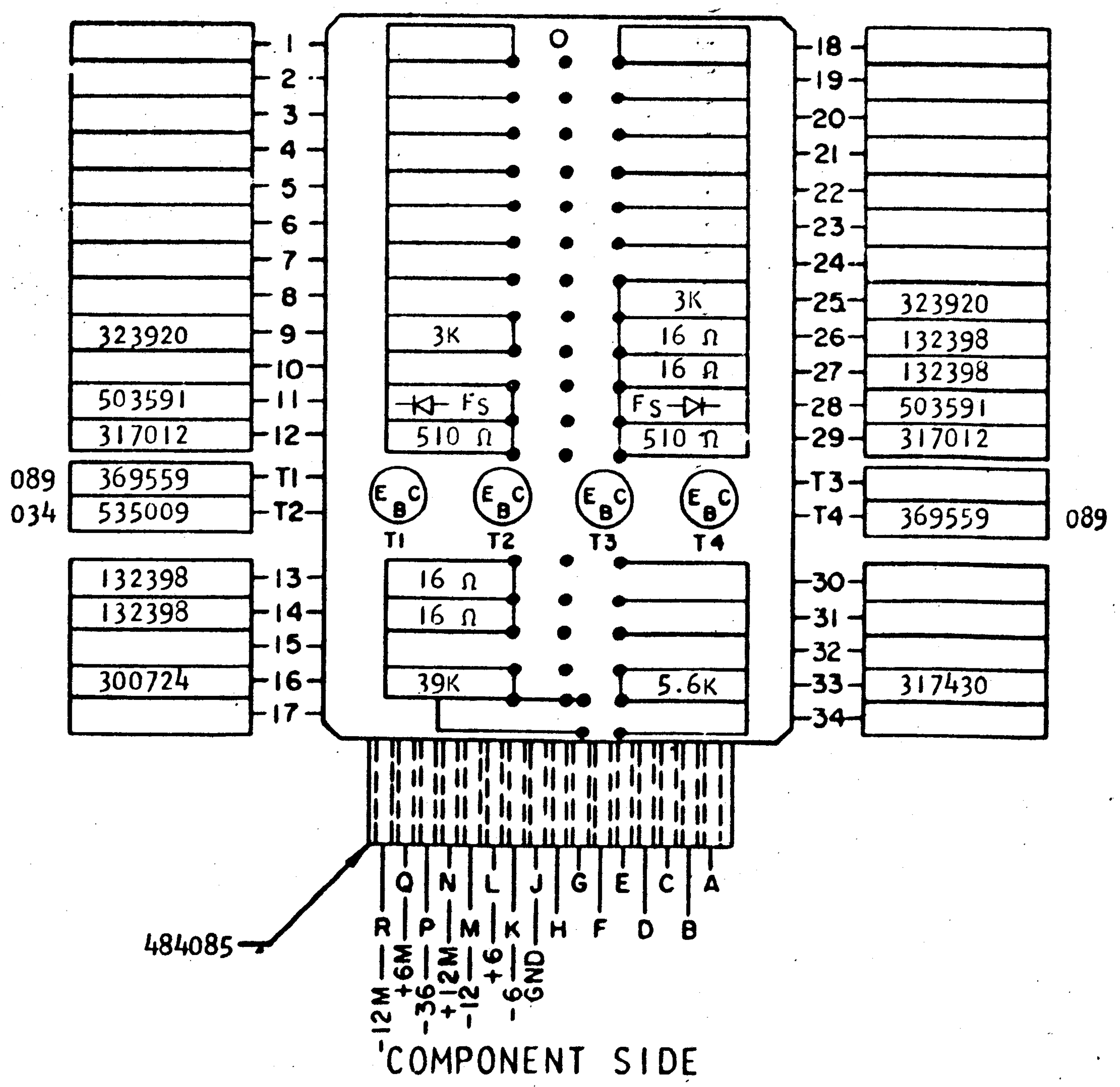
STANDARDS CODE 2-7045

ALLOY BRUSH DRIVER DRIVER



NOTES

- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892260
- II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED



B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H. D. Hanford	11-18-60

INTERNATIONAL BUSINESS MACHINES CORP.

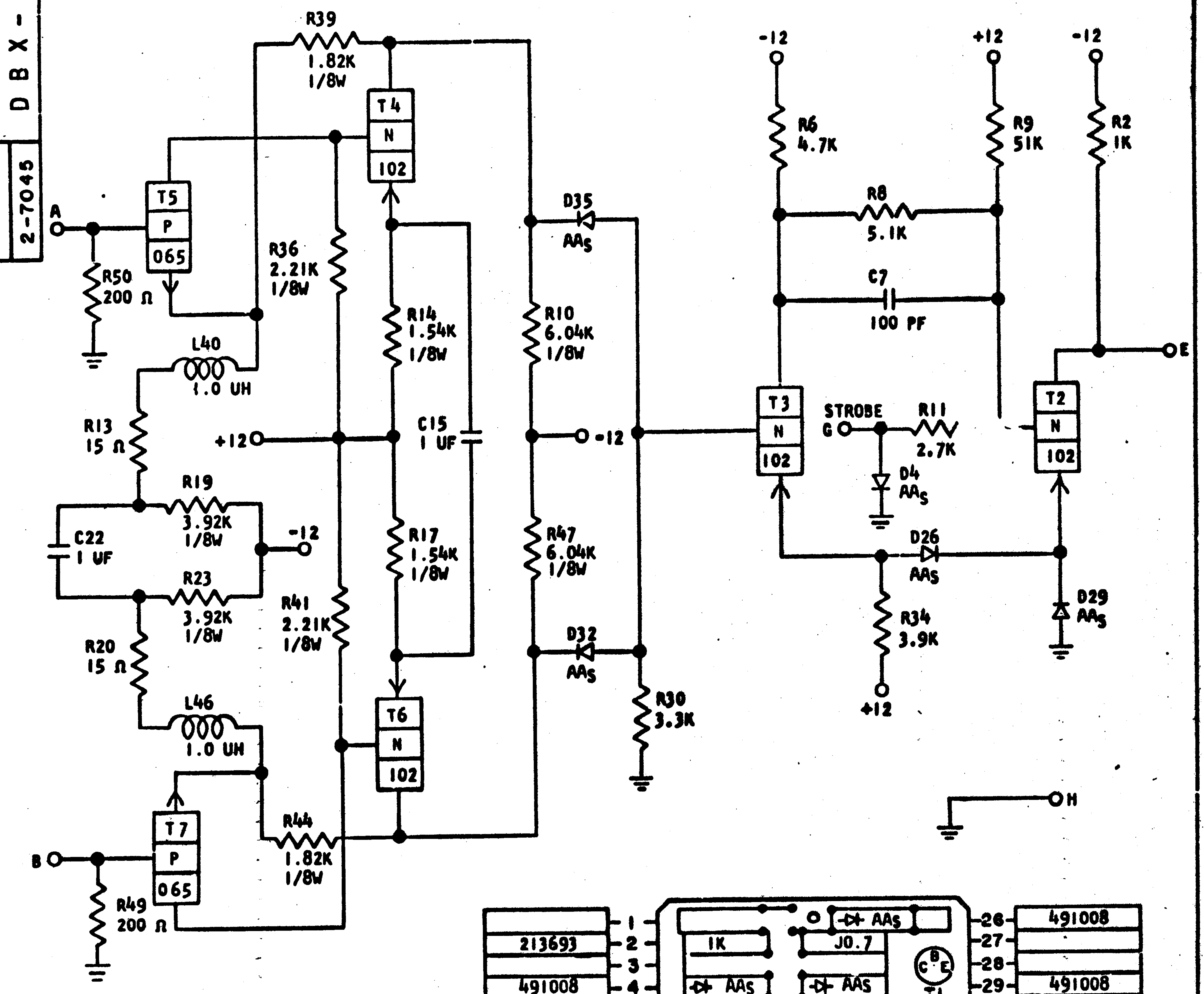
NAME	CARD ASM TSTR-ALLOY BRUSH DRIVER DRIVER			
DESIGN			TYPE	SMS 1410
DETAIL	RW	10-20-60	SCALE	NONE
CHECK	A.P.	11-23-60	DRAW	MDE 11-29-60
APPRO	BES	11-30-60	CHECK	IPR 11-2960

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
11-30-60	110547	DWB			
3-2-61	D111273	IWB			

DEVELOPMENT NO. X0540B

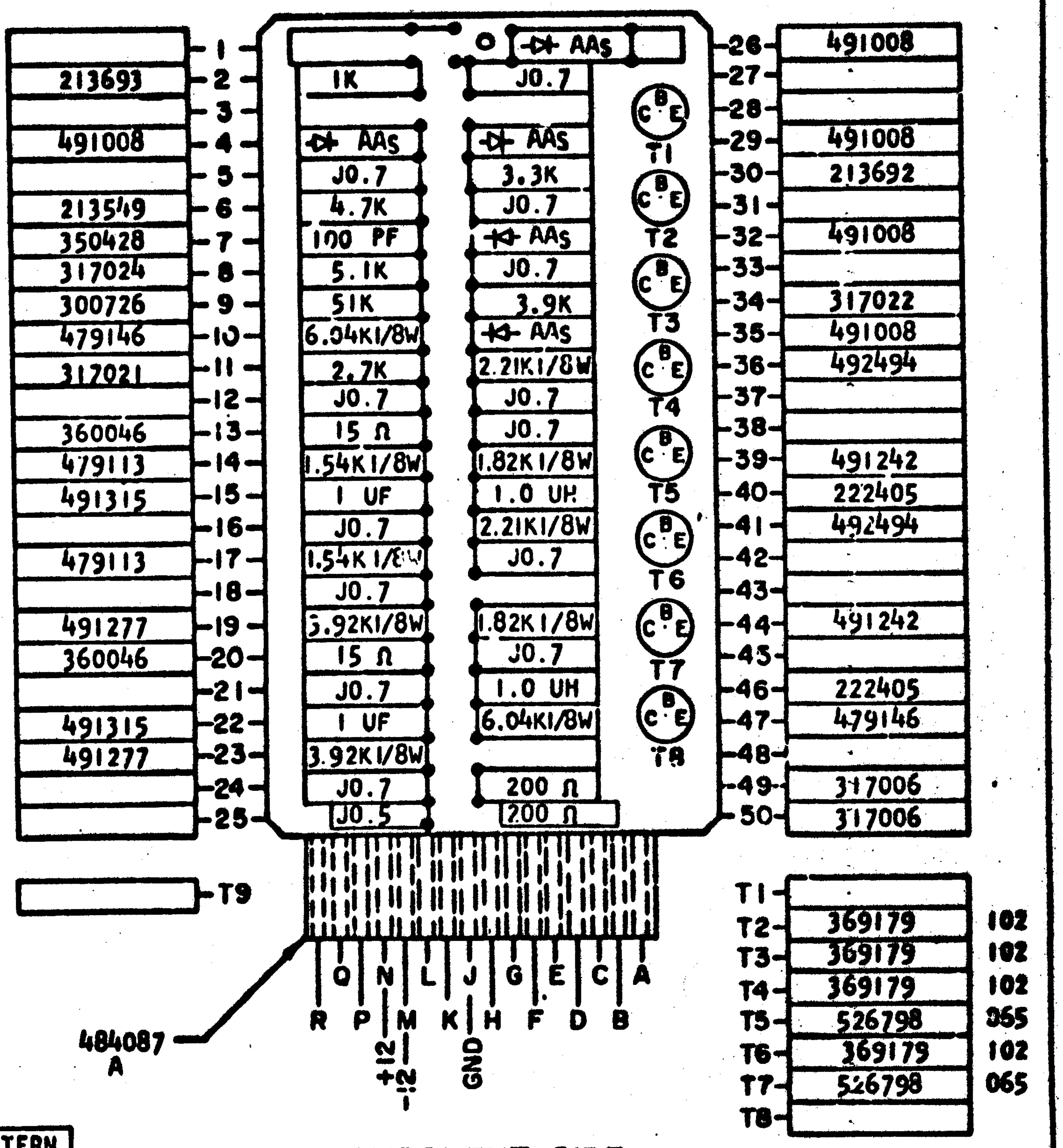
370261	DBX-
STANDARDS CODE	2-7045

DRIFT - BUFFER SENSE AMPLIFIER



NOTES

- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892261
- II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891993
- III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED (AS NOTE XIV)
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV ALL 1/8 WATT RESISTORS ARE ±1%
- XV
- XVI POSITIONS T2,T3,T4,T6 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING



Part No.	Pin
	1
213693	2
	3
491008	4
	5
213549	6
350428	7
317024	8
300726	9
479146	10
317021	11
	12
360046	13
479113	14
491315	15
	16
479113	17
	18
491277	19
360046	20
	21
491315	22
491277	23
	24
	25

Pin	Part No.
26	491008
27	
28	
29	491008
30	213692
31	
32	491008
33	
34	317022
35	491008
36	492494
37	
38	
39	491242
40	222405
41	492494
42	
43	
44	491242
45	
46	222405
47	479146
48	
49	317006
50	317006

T1		
T2	369179	102
T3	369179	102
T4	369179	102
T5	526798	065
T6	369179	102
T7	526798	065
T8		

COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD		
APPROVAL	DATE	HOLE PATTERN
D. P. Brown	12-8-60	493457

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR-DRIFT-BUFFER SENSE AMPLIFIER				
DESIGN			TYPE	SMS 1410	
DETAIL	AP	12-14-60	SCALE	NONE	
CHECK	AP	12-14-60	DRAW	VE	12-15-60
APPRO	BES	12-16-60	CHECK		12-15-60

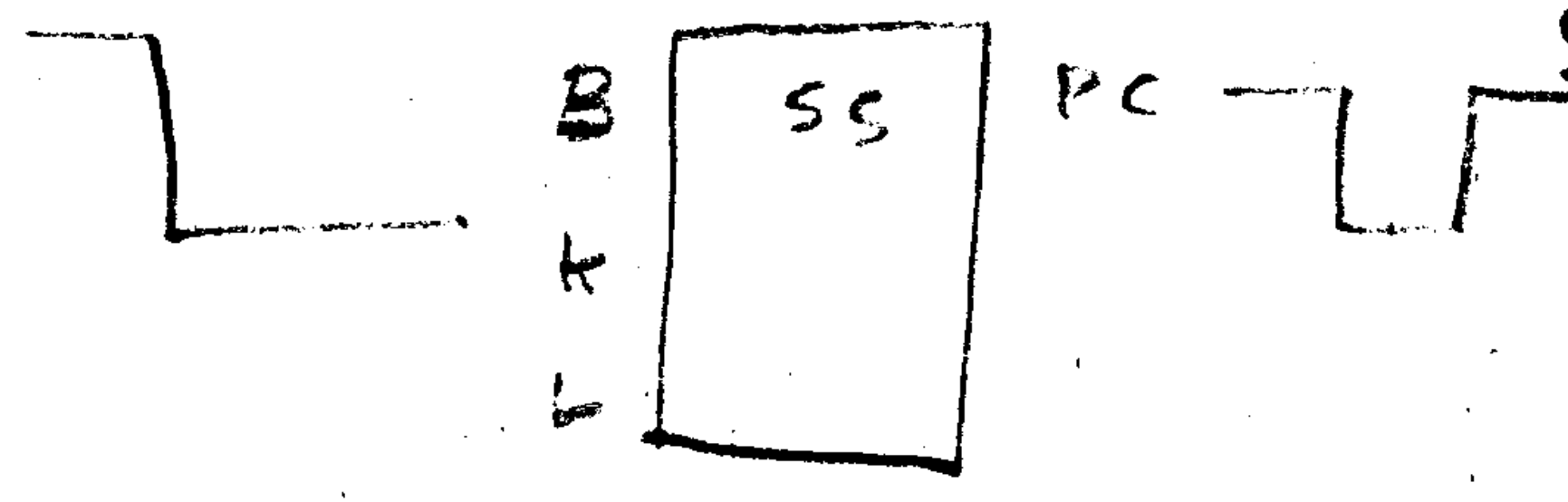
DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
12-16-60	110838	NOTE XV	1-17-63	116075	MDL	MEMX 009
3-16-61	111391	NOTE XV				
8-16-61	112439	NOTE XV				
6-22-62	113948	NOTE XV				
8-21-62	D114375	MDL				

370261

RK

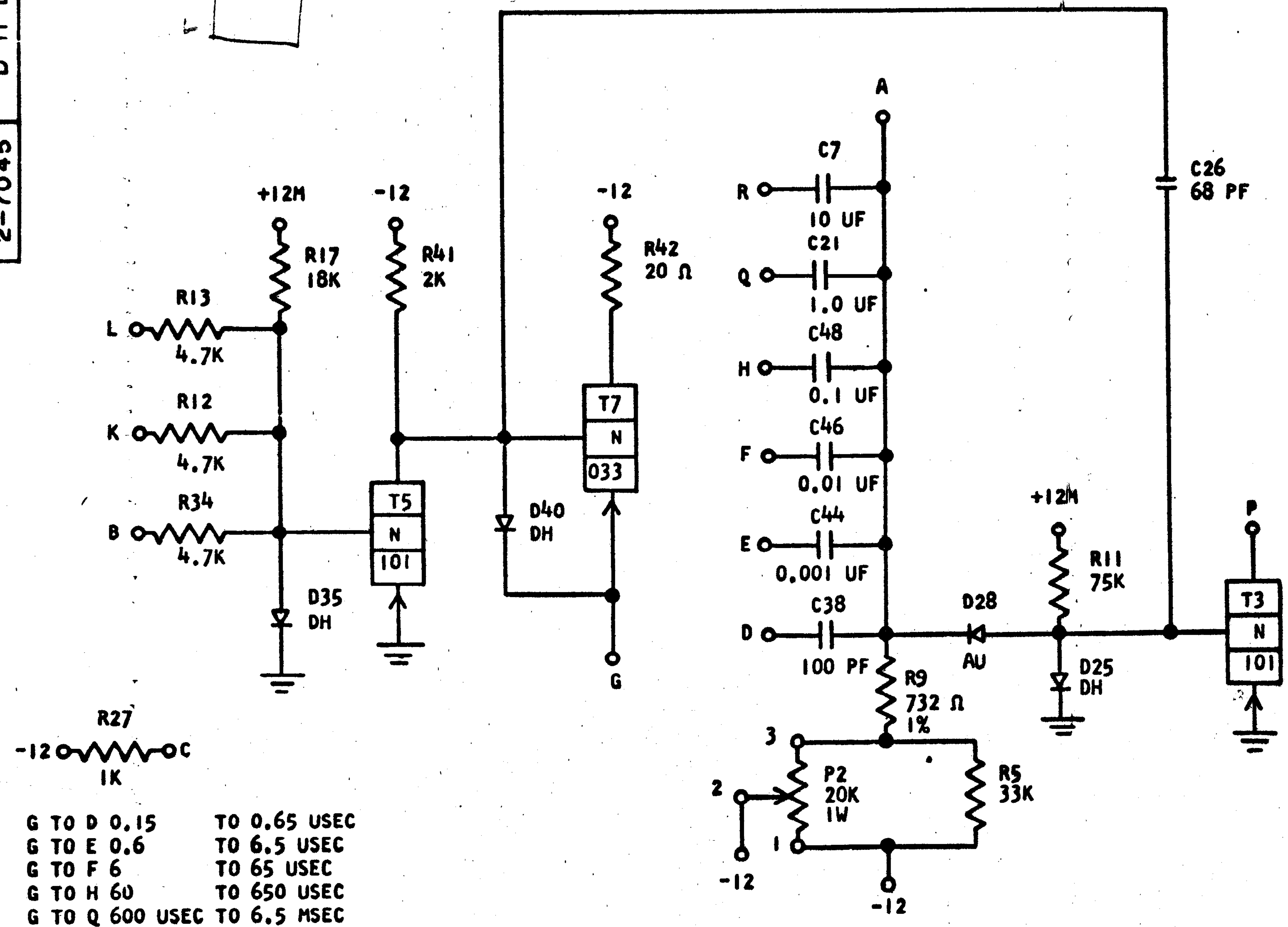
370262 DHE-

STANDARDS CODE 2-7045

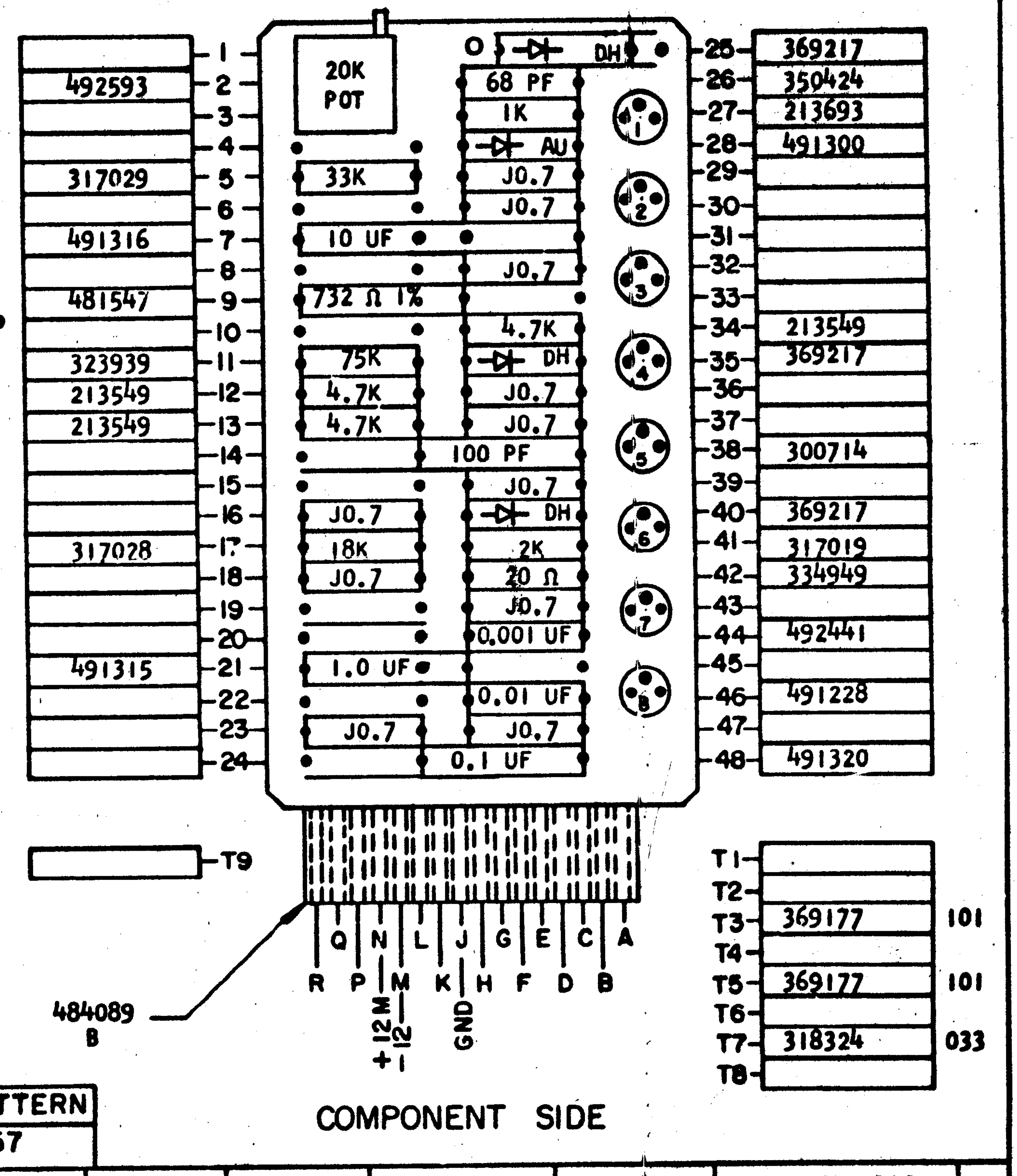


SDTRL - SINGLE SHOT

0.15 USEC TO 65 MSEC



G TO D 0.15 TO 0.65 USEC
G TO E 0.6 TO 6.5 USEC
G TO F 6 TO 65 USEC
G TO H 60 TO 650 USEC
G TO Q 600 USEC TO 6.5 MSEC
G TO R 6 MSEC TO 65 MSEC



1	
2	492593 **
3	
4	
5	317029
6	
7	491316
8	
9	481547
10	
11	323939
12	213549
13	213549
14	
15	
16	
17	317028
18	
19	
20	
21	491315
22	
23	
24	
T9	

25	369217
26	350424
27	213693
28	491300
29	
30	
31	
32	
33	
34	213549
35	369217
36	
37	
38	300714
39	
40	369217
41	317019
42	334949
43	
44	492441
45	
46	491228
47	
48	491320

T1		
T2		
T3	369177	101
T4		
T5	369177	101
T6		
T7	318324	033
T8		

COMPONENT SIDE

NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892262
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV
- XV POSITIONS T3,T5 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. SEE REFERENCE DRAWING 493830. USE TRANSISTOR SPACER 483070 AS REQUIRED.
- ** XVI POTENTIOMETER 492593 NOT TO BE SUBJECTED TO ANY LIQUIDS.
- XVII REFER TO FIELD SERVICE DRAWING PART NUMBER 729924 WHEN MAKING A CHANGE TO THIS CIRCUIT

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
HDH GS	12-1-60

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR — SDTRL- SINGLE SHOT				
DESIGN			MODEL	SMS	
DETAIL	AP	12-3-60	SCALE	NONE	
CHECK	AP	12-3-60	DRAW	VE	5-13-62
APPRO	BES	12-7-60	CHECK		6-15-62

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
SEE	INDEX CARD		8-21-62	D114375	MDL
8-9-61	112425	NOTE XIV			
12-4-61	113128	NOTE XIV			
6-21-62	REDRAWN				
6-22-62	113948	NOTE XIV			

DEVELOPMENT NO.
X0491

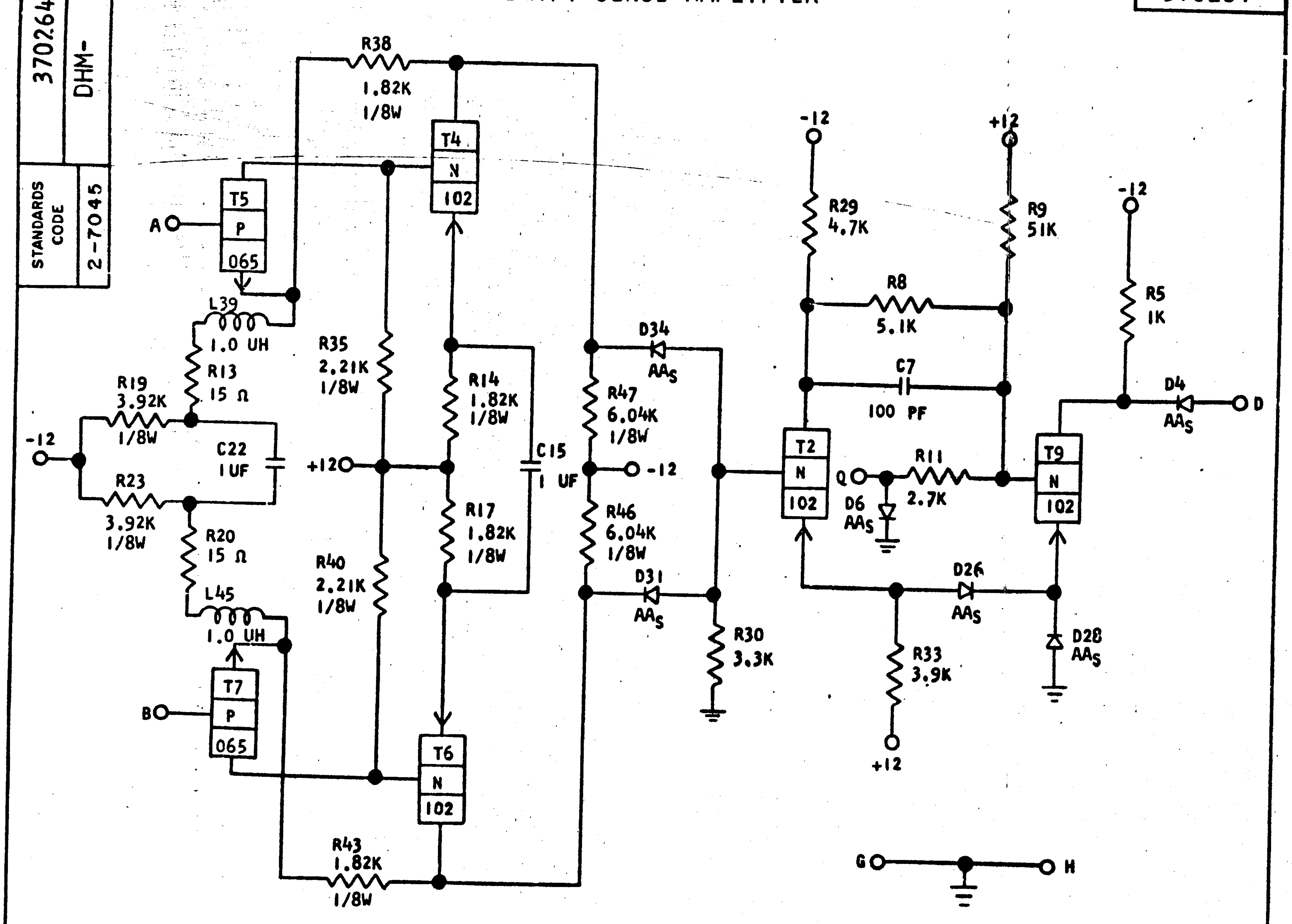
370262

82-3987-2 6-22-61

370264	DHM-
STANDARDS CODE	2-7045

DRIFT SENSE AMPLIFIER

370264



NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892264

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

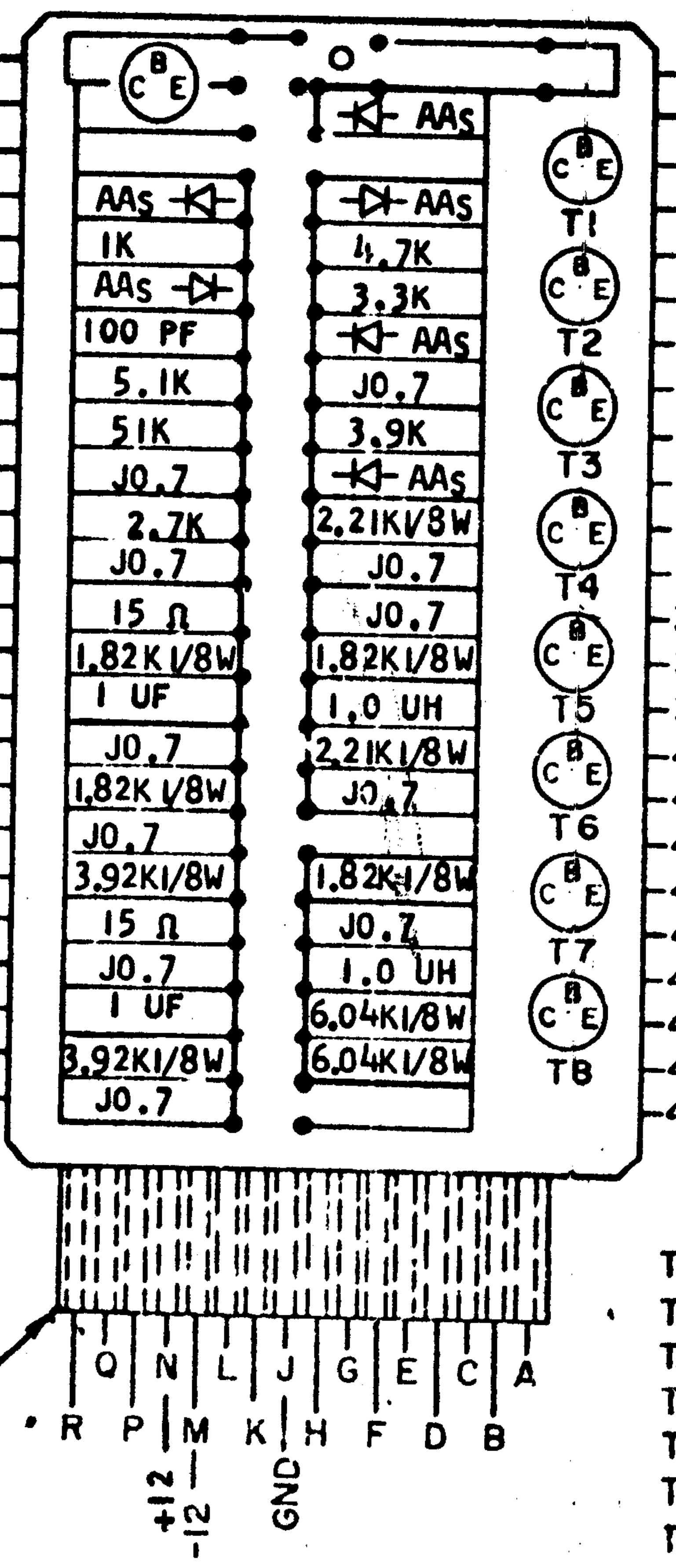
XIV

XV ALL 1/8 WATT RESISTORS ARE ±1% UNLESS OTHERWISE NOTED

XVI

XVII POSITIONS T2,T4,T6,T9, ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING

	1
	2
	3
491008	4
213693	5
491008	6
350428	7
317024	8
300726	9
	10
317021	11
	12
360046	13
491242	14
491315	15
	16
491242	17
	18
491277	19
360046	20
	21
491315	22
491277	23
	24



25	
26	491008
27	
28	491008
29	213549
30	213692
31	491008
32	
33	317022
34	491008
35	492494
36	
37	
38	491242
39	222405
40	492494
41	
42	
43	4912[illegible]
44	
45	222405
46	479146
47	479146
48	

102 369179 T9

484093
A

T1		
T2	369179	102
T3		
T4	369179	102
T5	526798	065
T6	369179	102
T7	526798	065
T8		

COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
DPB GS	8-22-60

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR - DRIFT SENSE AMPLIFIER			
DESIGN			TYPE	SMS 1410
DETAIL	AP	12-7-60	SCALE	NONE
CHECK	AP	12-7-60	DRAW	PJZ 12-8-60
APPRO.	BES		CHECK	12-8-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
12-8-60	110860	NOTE XIV			
3-10-61	111392	NOTE XIV			
8-16-61	112439	NOTE XIV			
6-7-62	113941	MDL			
1-17-63	116075	MDL			

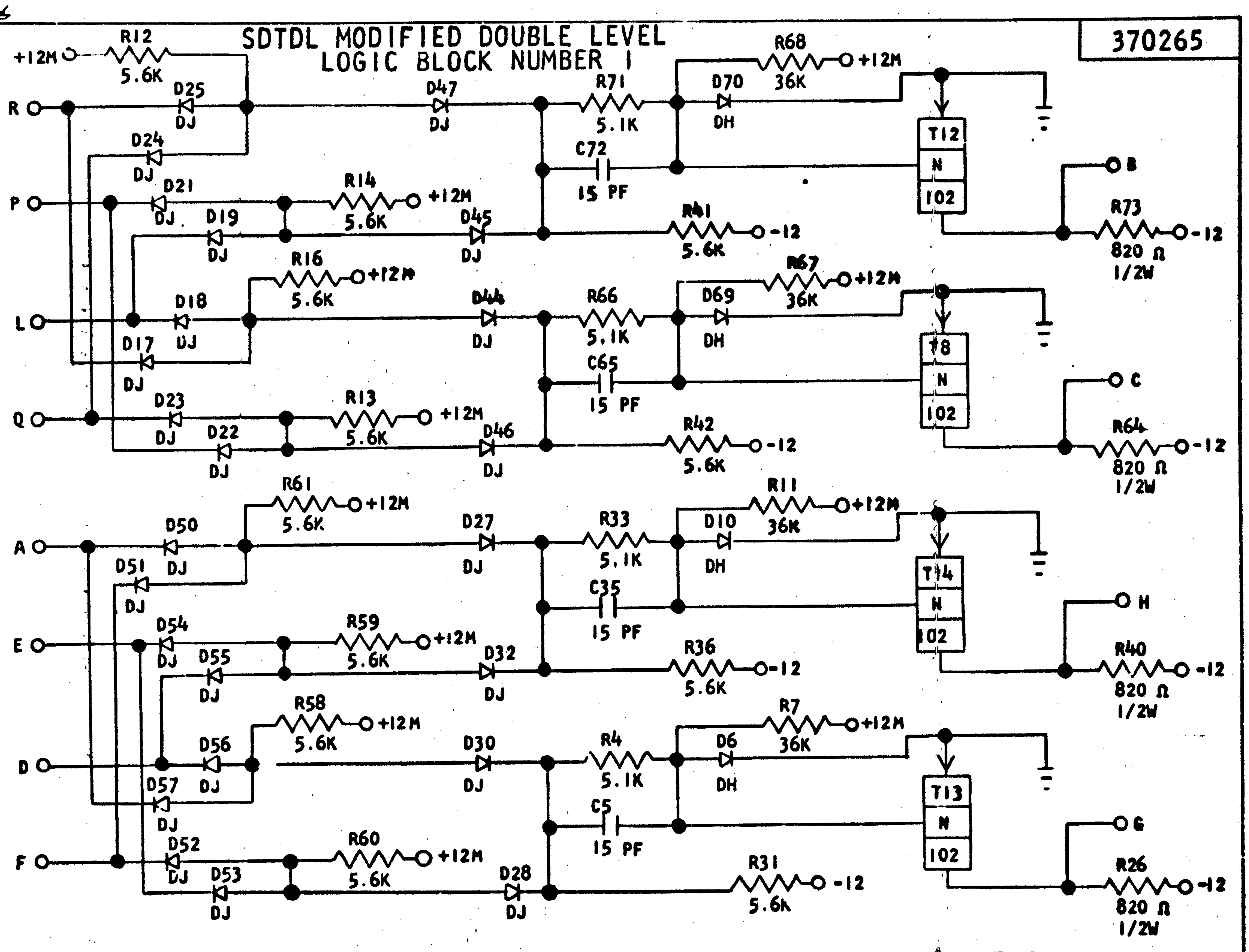
DEVELOPMENT NO.
MEMX010

370264

370265
DHL-
STANDARDS CODE 2-7045

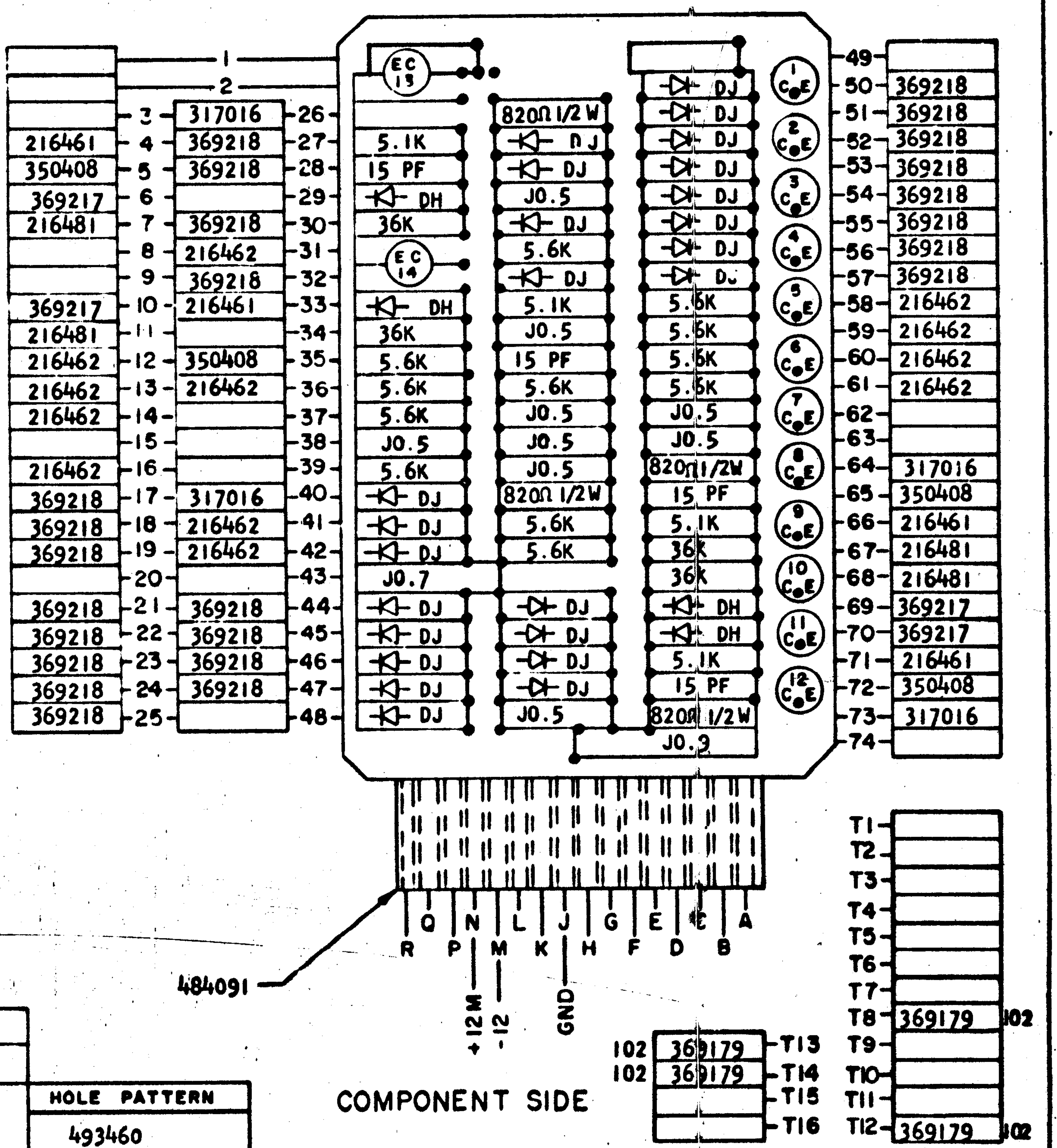
370265

SDTDL MODIFIED DOUBLE LEVEL LOGIC BLOCK NUMBER 1



NOTES

- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892265
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/4 WATT AND ± 5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV
- XV MOUNT TRANSISTOR PART NUMBER 369179 WITH TRANSISTOR SPACER 483070



Pin	Part No.
1	
2	
3	
4	216461
5	350408
6	369217
7	216481
8	
9	
10	369217
11	216481
12	216462
13	216462
14	216462
15	
16	216462
17	369218
18	369218
19	369218
20	
21	369218
22	369218
23	369218
24	369218
25	369218

Pin	Part No.
26	317016
27	369218
28	369218
29	
30	369218
31	216462
32	369218
33	216461
34	
35	350408
36	216462
37	
38	
39	
40	317016
41	216462
42	216462
43	
44	369218
45	369218
46	369218
47	369218
48	

Pin	Part No.
49	
50	369218
51	369218
52	369218
53	369218
54	369218
55	369218
56	369218
57	369218
58	216462
59	216462
60	216462
61	216462
62	
63	
64	317016
65	350408
66	216461
67	216481
68	216481
69	369217
70	369217
71	216461
72	350408
73	317016
74	

	Part No.	
T1		
T2		
T3		
T4		
T5		
T6		
T7		
T8	369179	102
T9		
T10		
T11		
T12	369179	102

	Part No.	
102	369179	T13
102	369179	T14
		T15
		T16

COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H. D. Hanford HB	12-15-60

HOLE PATTERN
493460

INTERNATIONAL BUSINESS MACHINES CORP.

NAME CARD ASM TSTR -SDTDL MOD. DOUBLE LEVEL LOGIC BLOCK #1

			SMS 1410
	AP 12-9-60	SCALE	NONE
	AP 12-12-60		VE 12-10-60
	BES 12-19-60		HOA 12-12-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
12-19-60	110925	NOTE XIV				X0528
5-16-61	111243	NOTE XIV				
12-4-61	112747	NOTE XIV				
8-21-62	D114375	MDL				

370265

35

370291

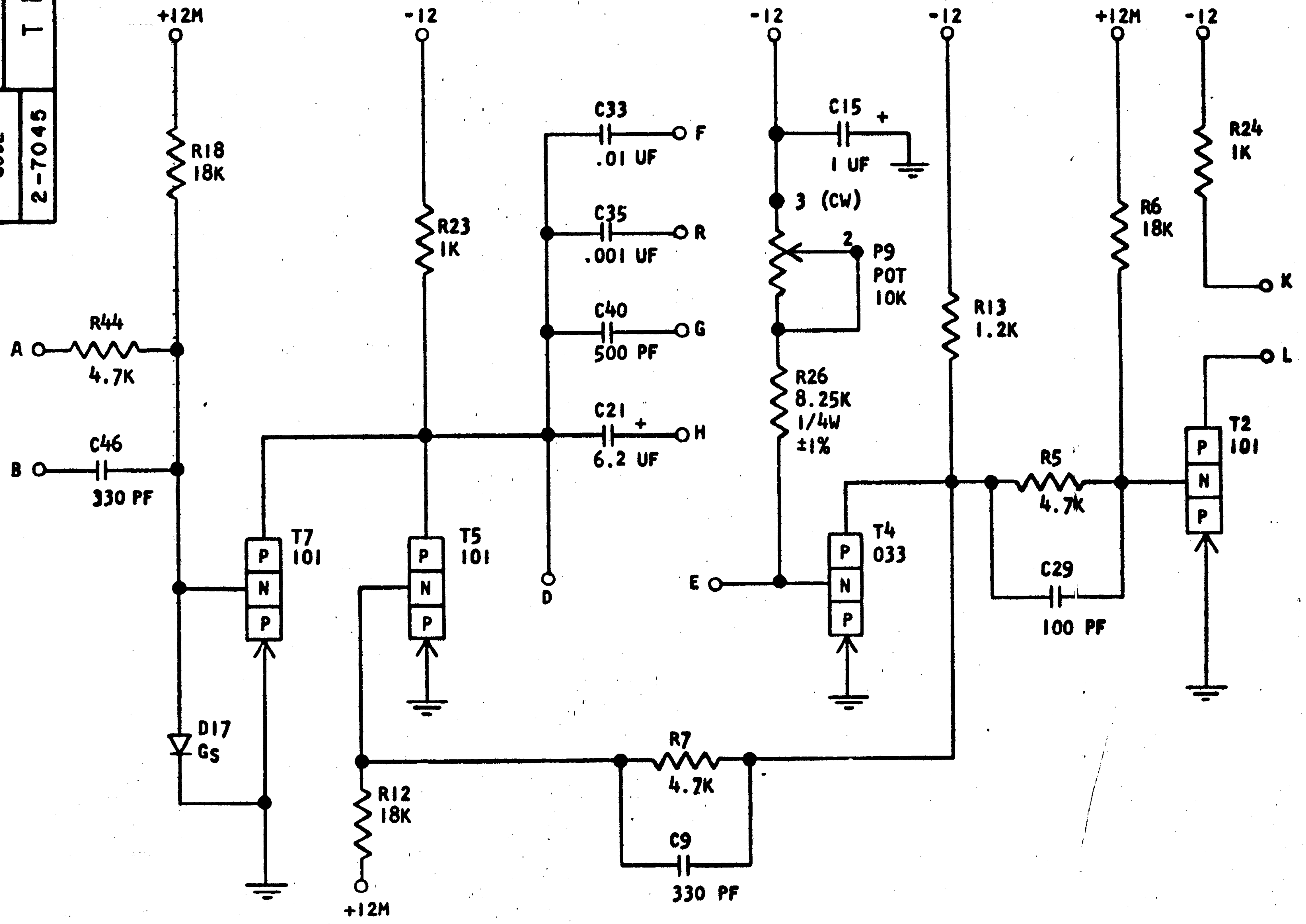
T B N -

STANDARDS CODE 2-7045

370291

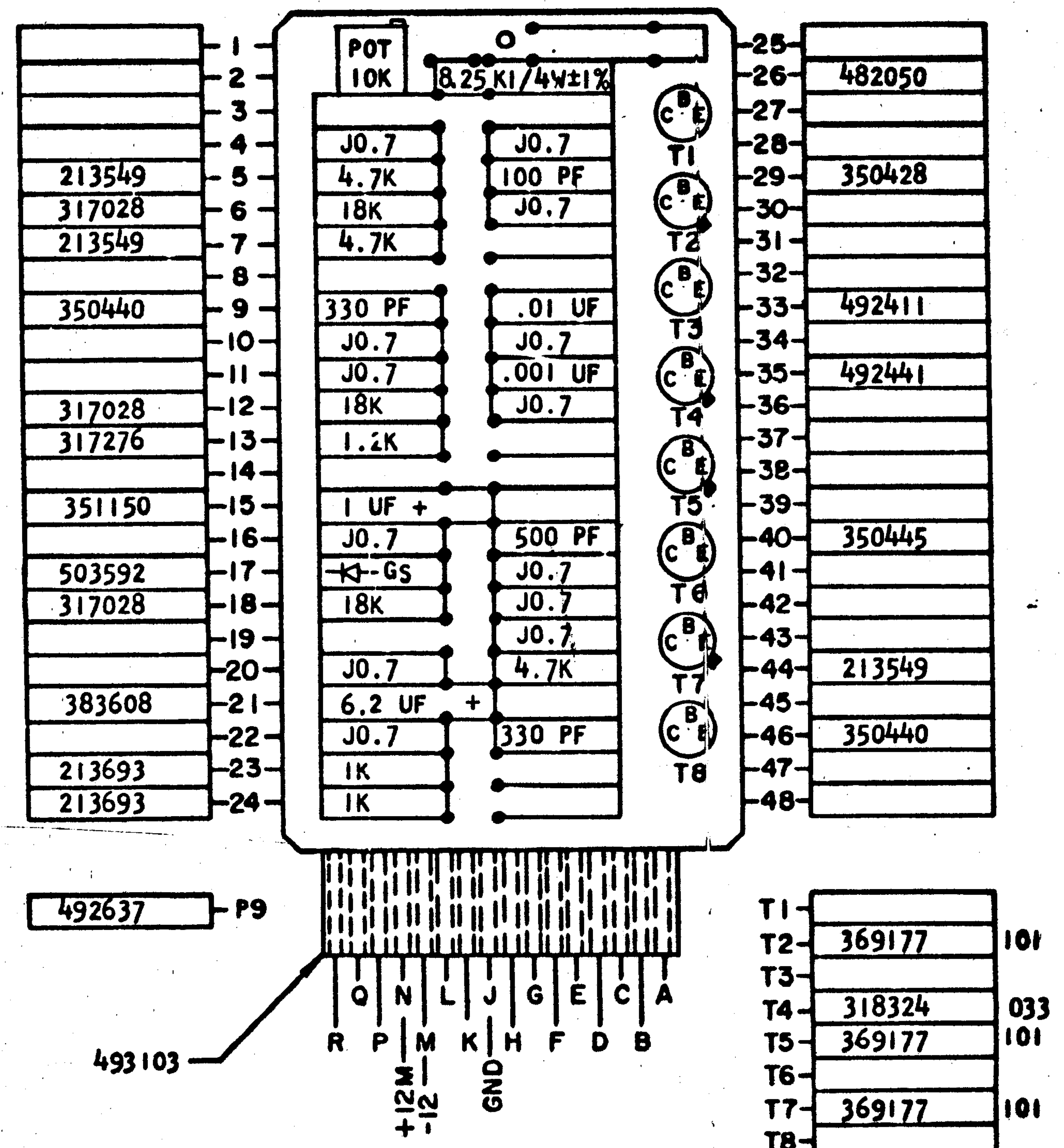
SDTRL - SINGLE SHOT VARIABLE - VM

MOUNT CARD ON 1 INCH CENTERS (NOTE XVII)



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892291
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- XIV 491299-ASSEMBLE WITH JEDEC TRANSISTOR AND POT
- XV
- XVI MOUNT TRANSISTOR PART NUMBER 369177 WITH TRANSISTOR SPACER 483070
- XVII THE MAXIMUM HEIGHT THE COMPONENTS MAY PROJECT ABOVE THE SURFACE OF THE CARD WILL BE .390



B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT	8-2-60

HOLE PATTERN
493457

COMPONENT SIDE

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR- SDTRL- SINGLE SHOT VARIABLE - VM				
DESIGN	GHS	5-7-60	TYPE	SMS	UPM
DETAIL	DAS	5-9-60	SCALE	NONE	
CHECK	VJK	5-31-60	DRAW	VE	9-2-60
APPRO	BES	9-12-60	CHECK	9Z	9-6-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
9-13-60	109910	NOTE XV			
3-9-61	111390	NOTE XV			
5-25-61	112021	NOTE XV			
8-17-62	114443	MDL			

DEVELOPMENT NO.
2547-1296

370291

CG

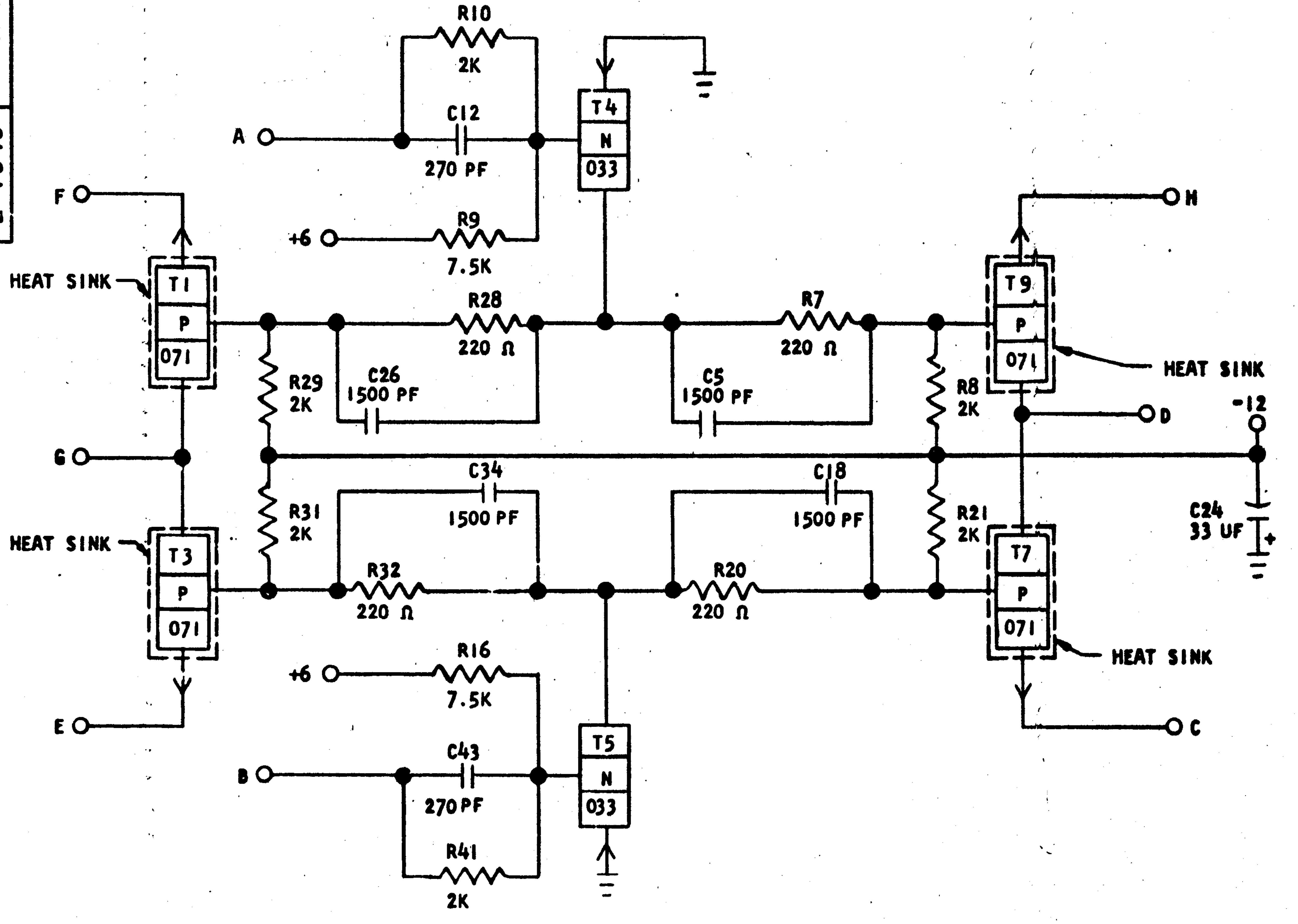
5

370293 AHC-

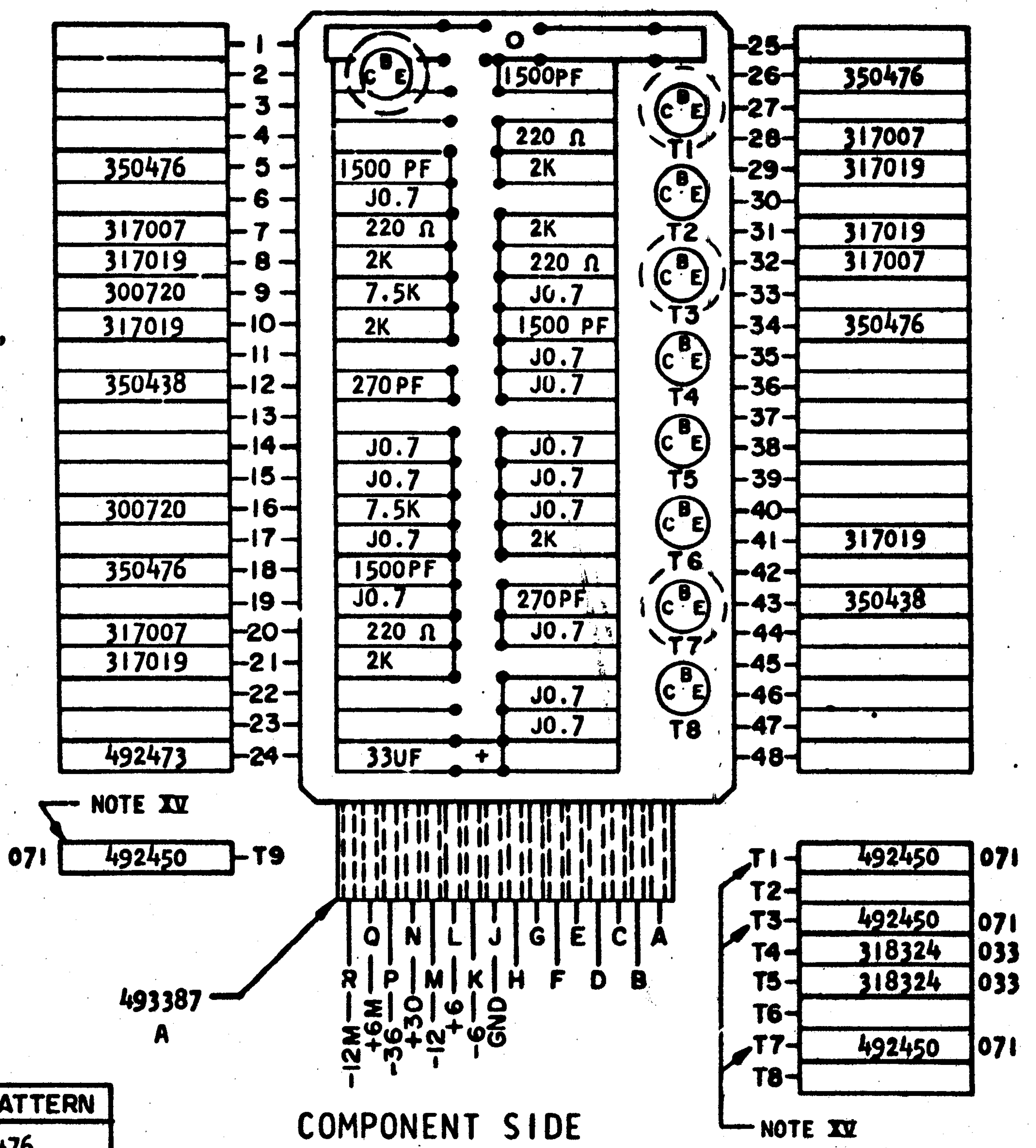
STANDARDS CODE 2-7045

370293

ALLOY-SWITCHES #3



NOTES
- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 891392
- II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- XIV
- XV HEAT SINKS 492434 OR 492435 TO BE SELECTED AS REQUIRED.



B

COMPONENT SIDE

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT	8-11-60

HOLE PATTERN
493476

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR- ALLOY SWITCHES #3 -				
DESIGN	REM	8-10-60	TYPE	SMS 7701	
DETAIL	REM	8-10-60	SCALE	NONE	
CHECK	GHS	8-11-60	DRAW	MDE	C-25-60
APPRO	BES	9-15-60	CHECK		8-29-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
9-15-60	109905	GWB				2547-1306
10-2-61	112694	IWB				
4-19-62	D114353	LHR				

370293

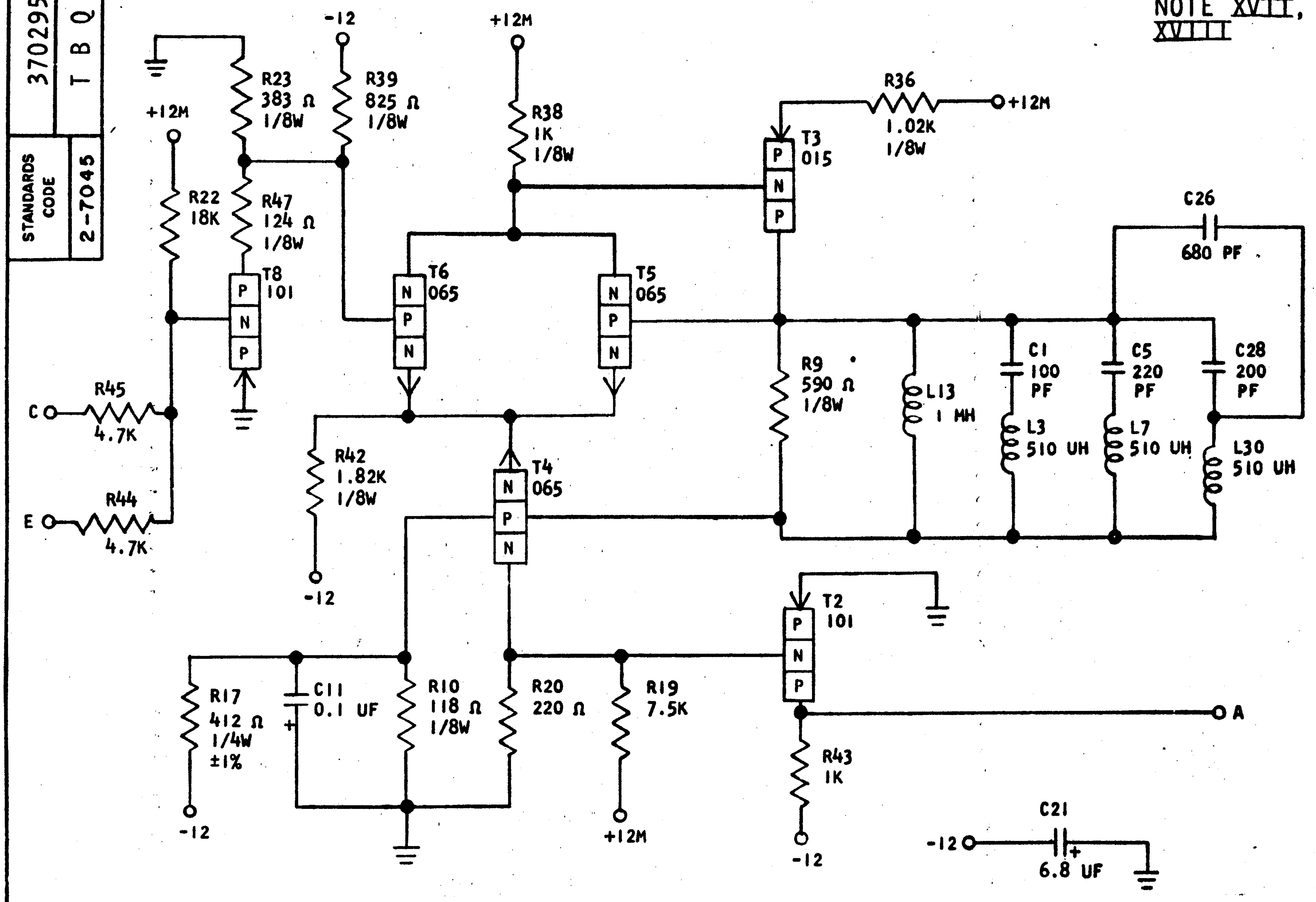
370295 T B Q -

STANDARDS CODE 2-7045

SDTRL - OSCILLATOR, 115 KC S LINE GATED

370295

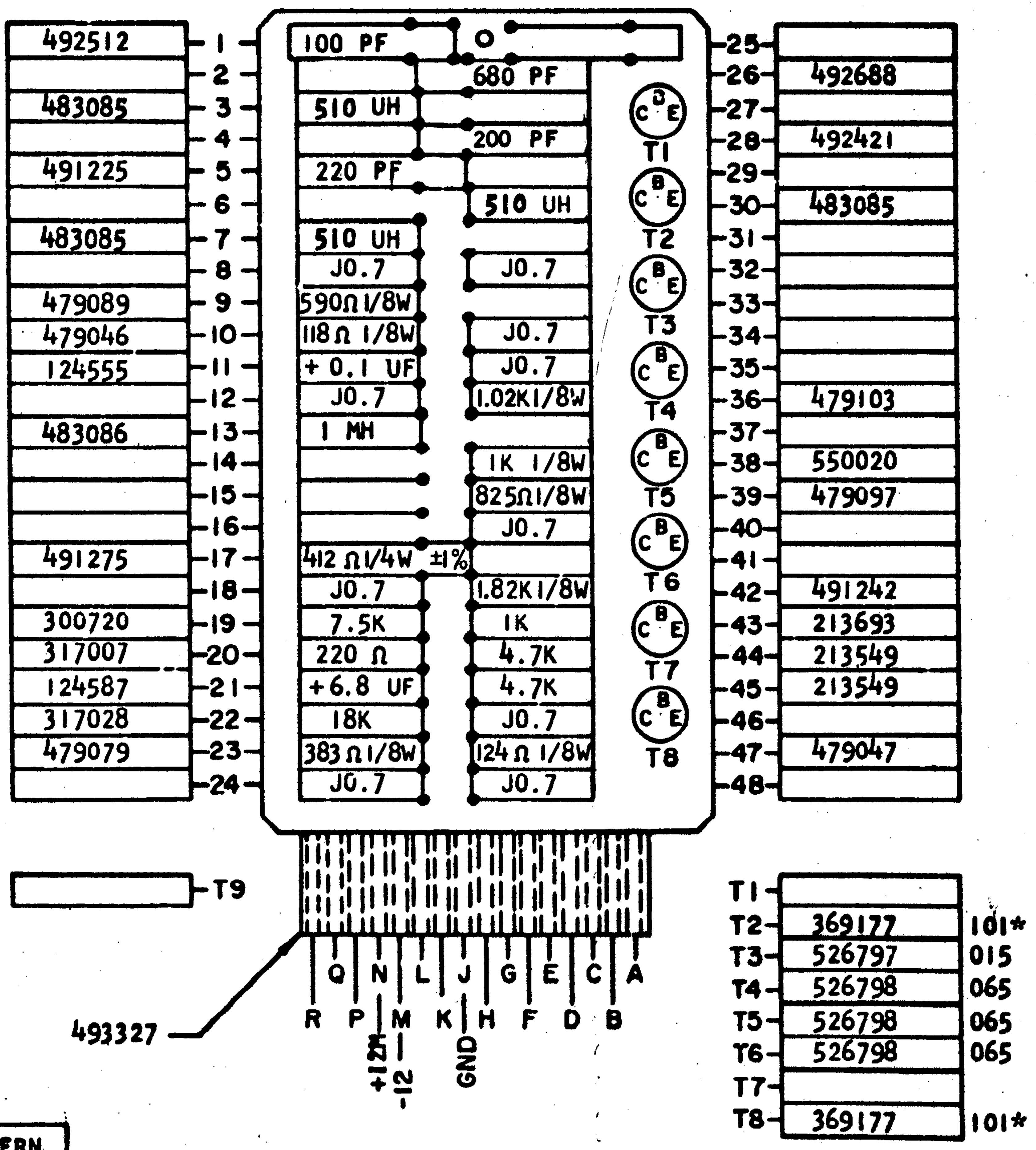
RESTRICTED NOTE XVII, XVIII



NOTES

- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892295
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED (AS NOTE XV)
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- XIV
- XV ALL 1/8 WATT RESISTORS ARE ±1%
- XVI MOUNT TRANSISTOR 369177 WITH TRANSISTOR SPACER 483070

- * XVII TECHNICAL LABORATORY EVALUATION INCOMPLETE. ADDITIONAL USAGE TO BE AVOIDED. THIS PART SUBJECT TO WITHDRAWAL
- XVIII RESTRICTED TO THE UTA MACHINE ONLY



B

CIRCUIT AND PACKAGING STANDARD:	
APPROVAL	DATE
KMT	8-2-60

HOLE PATTERN
493457

COMPONENT SIDE

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- SDTRL-OSC, 115 KC S LINE GATED				
DESIGN	DAS	7-1-60	TYPE	SMS UTA	
DETAIL	DAS	7-1-60	SCALE	NONE	
CHECK	VJK	8-1-60	DRAW	VE	8-29-60
APPRO	BES	9-21-60	CHECK	[illegible]	9-6-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
9-22-60	109911	NOTE XVII			
3-9-61	111390	NOTE XVII			
5-27-61	112020	NOTE XVII			
8-15-61	112399	NOTE XVII			

DEVELOPMENT NO.
2547-1196

370295

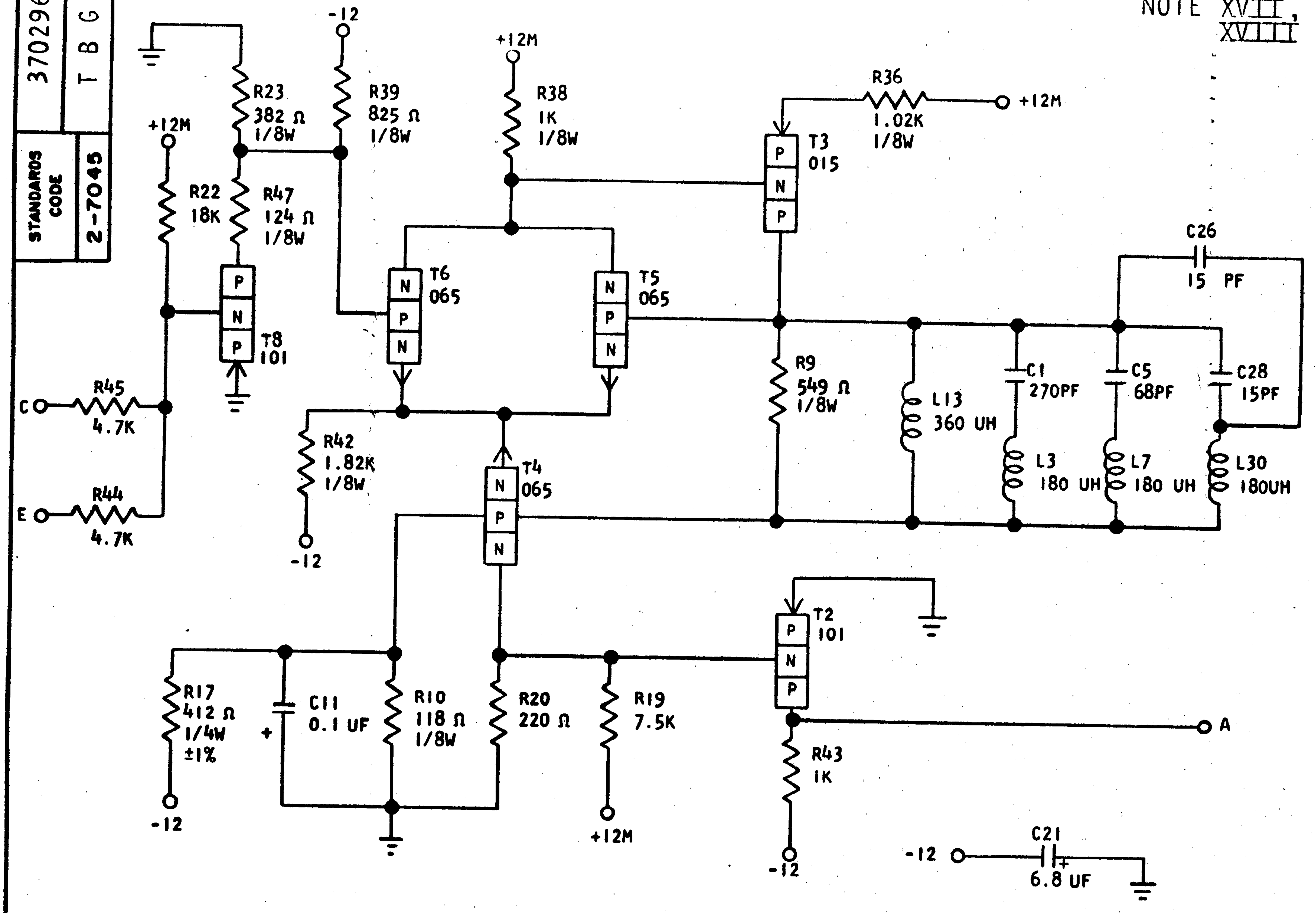
MW

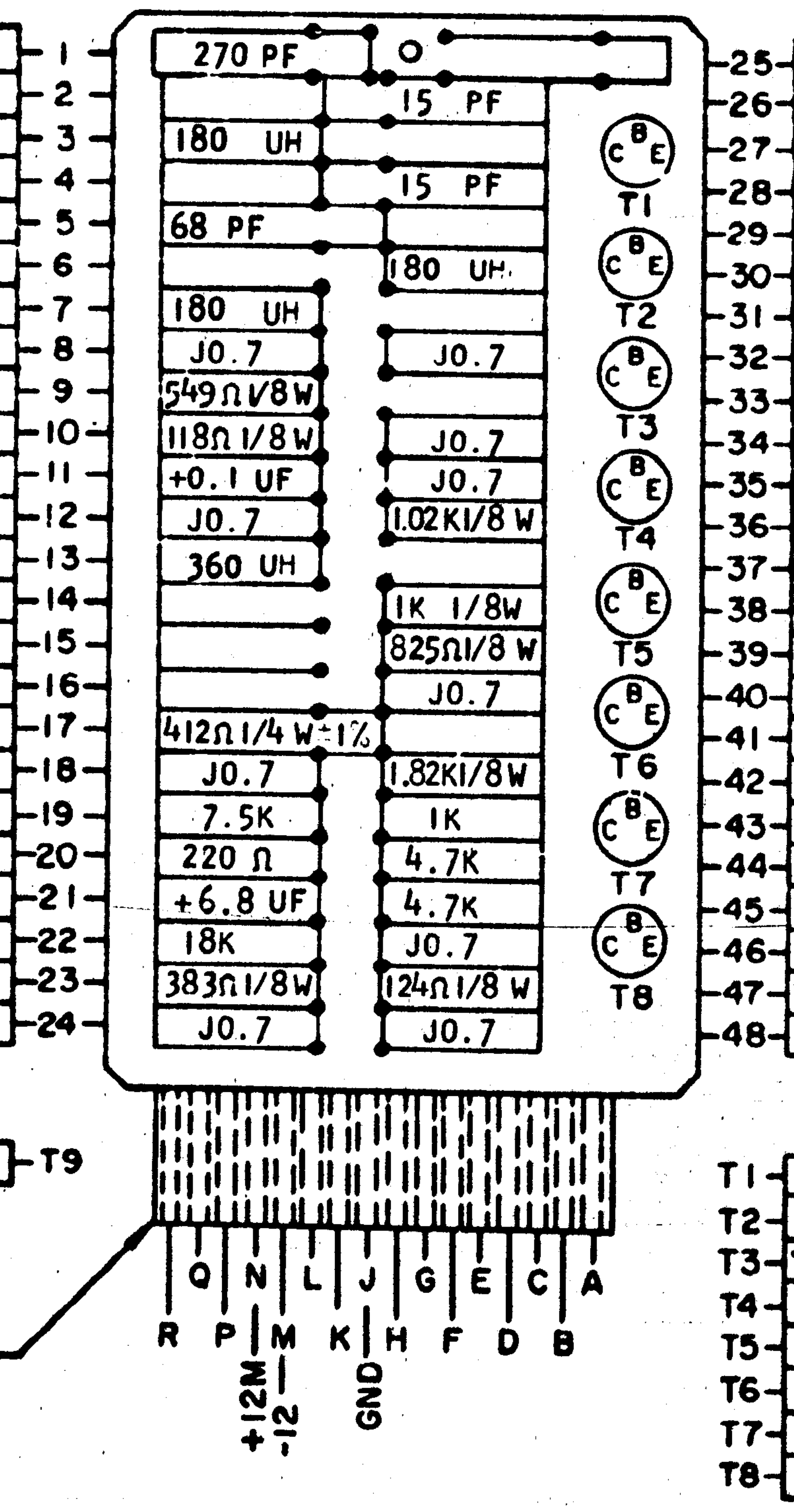
370296	T B G -
STANDARDS CODE	2-7045

SDTRL - OSCILLATOR, 320 KC S LINE GATED

370296

RESTRICTED
NOTE XVII, XVIII





491284	1
	2
483083	3
	4
322797	5
	6
483083	7
	8
479087	9
479046	10
124555	11
	12
483084	13
	14
	15
	16
491275	17
	18
300720	19
317007	20
124587	21
317028	22
479079	23
	24

25	
26	492514
27	
28	492514
29	
30	483083
31	
32	
33	
34	
35	
36	479103
37	
38	550020
39	479097
40	
41	
42	491242
43	213693
44	213549
45	213549
46	
47	479047
48	

NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892296
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED (AS NOTE XV)
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- XIV
- XV ALL 1/8 WATT RESISTORS ARE ±1% UNLESS OTHERWISE NOTED
- XVI MOUNT TRANSISTOR 369177 WITH TRANSISTOR SPACER 483070
- * XVII TECHNICAL LABORATORY EVALUATION INCOMPLETE. ADDITIONAL USAGE TO BE AVOIDED. THIS PART SUBJECT TO WITHDRAWAL
- XVIII RESTRICTED TO THE UTA MACHINE ONLY

	T9

493327

T1		
T2	369177	101*
T3	526797	015
T4	526798	065
T5	526798	065
T6	526798	065
T7		
T8	369177	101*

B

COMPONENT SIDE

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT	8-2-60

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- SDTRL OSC 320 KC S LINE GATED		
DESIGN	DAS 7-5-60	TYPE	SMS UTA
DETAIL	DAS 7-5-60	SCALE	NONE
CHECK	VJK 8-1-60	DRAW	VE 8-31-60
APPRO	BES 9-21-60	CHECK	9-6-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
9-22-60	109911	NOTE XVII			
3-9-61	111390	NOTE XVII			
5-27-61	112020	NOTE XVII			
8-15-61	112423	NOTE XVII			

DEVELOPMENT NO.
2547-1197

370296

RK

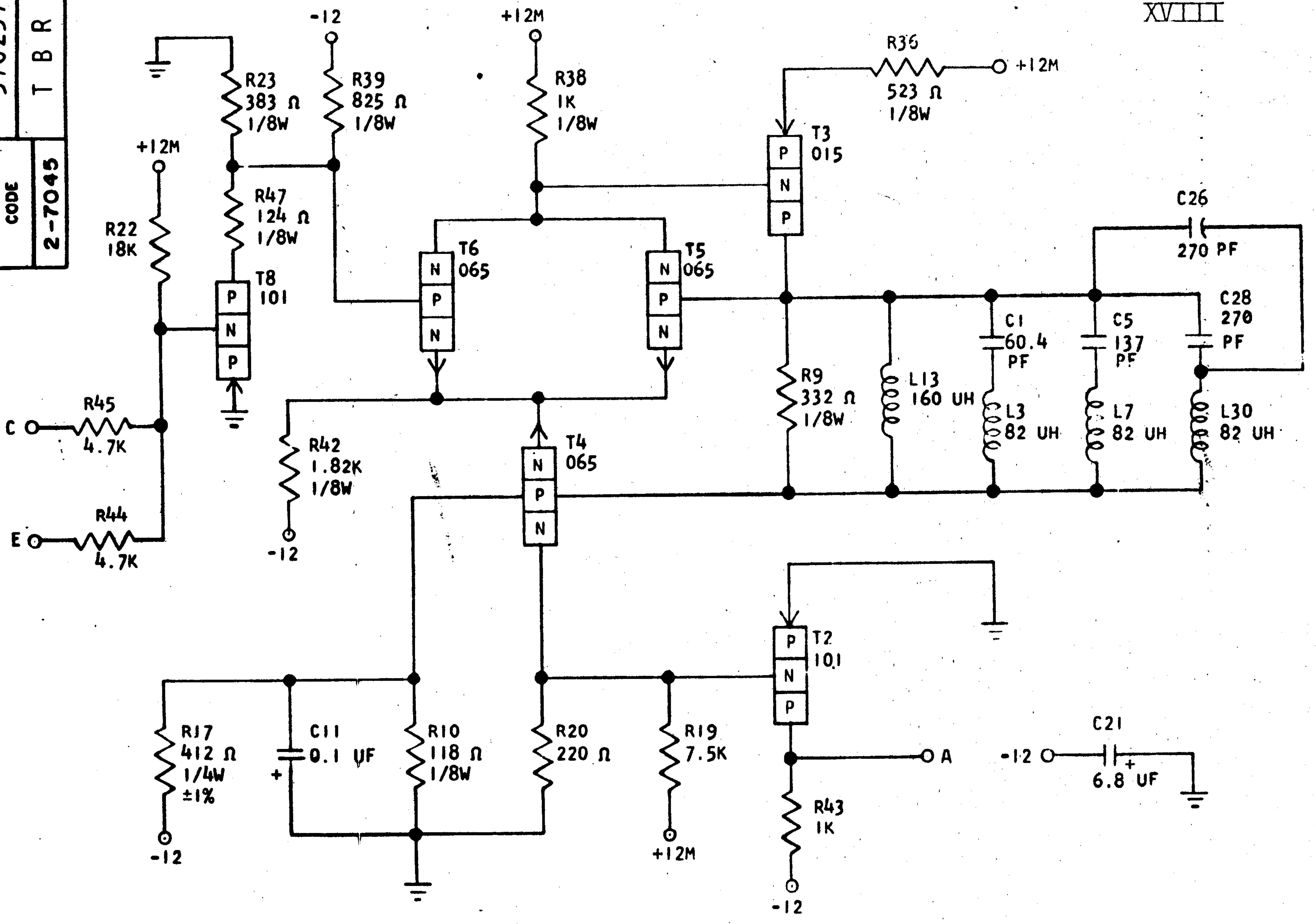
370297
T B R -

STANDARDS CODE
2-7045

SDTRL - OSCILLATOR, 360 KC S LINE GATED

370297

RESTRICTED
NOTE XVII,
XVIII

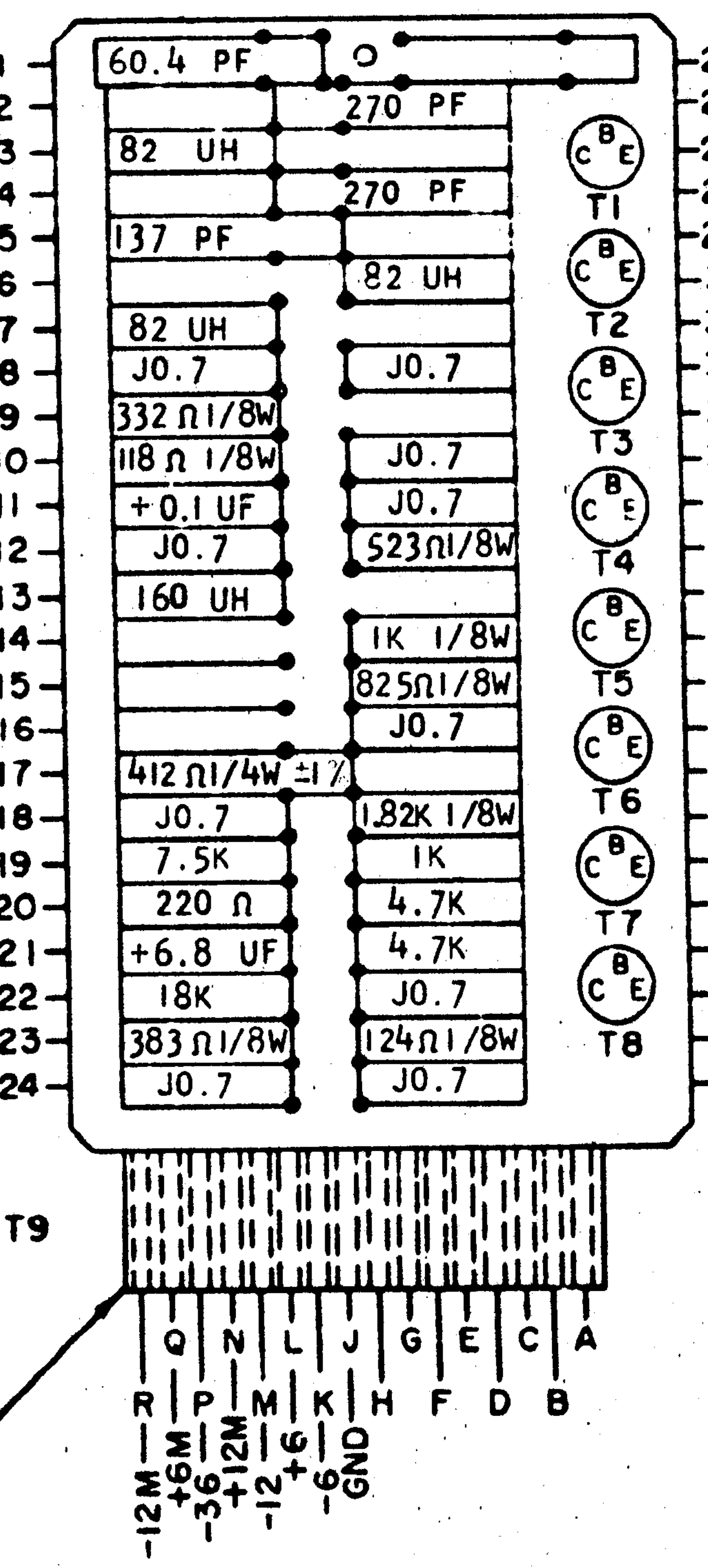


NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892297
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED (AS NOTE XV)
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- XIV
- XV ALL 1/8 WATT RESISTORS ARE ±1%
- XVI MOUNT TRANSISTOR 369177 WITH TRANSISTOR SPACER 483070

- * XVII TECHNICAL LABORATORY EVALUATION INCOMPLETE: ADDITIONAL USAGE TO BE AVOIDED. THIS PART SUBJECT TO WITHDRAWAL
- XVIII RESTRICTED TO THE UTA MACHINE ONLY

492392	1
	2
483094	3
	4
492395	5
	6
483094	7
	8
479076	9
479046	10
124555	11
	12
483097	13
	14
	15
	16
491275	17
	18
300720	19
317007	20
124587	21
317028	22
479079	23
	24



25	
26	491284
27	
28	491284
29	
30	483094
31	
32	
33	
34	
35	
36	491238
37	
38	550020
39	479097
40	
41	
42	491242
43	213693
44	213549
45	213549
46	
47	479047
48	

T9

T1		
T2	369177	101*
T3	526797	015
T4	526798	065
T5	526798	065
T6	526798	065
T7		
T8	369177	101*

COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT	8-2-60

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR-SDTRL-OSC,				
360 KC S LINE GATED					
DESIGN	DAS	7-1-60	TYPE	SMS UTA	
DETAIL	DAS	7-1-60	SCALE	NONE	
CHECK	VJK	8-1-60	DRAW	VE	8-29-60
APPRO	BES	9-21-60	CHECK		9.1.60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
9-22-60	109911	NOTE XVII			
3-9-61	111390	NOTE XVII			
5-27-61	112020	NOTE XVII			
8-28-61	112437	NOTE XVII			

DEVELOPMENT NO.
2547-1198

370297

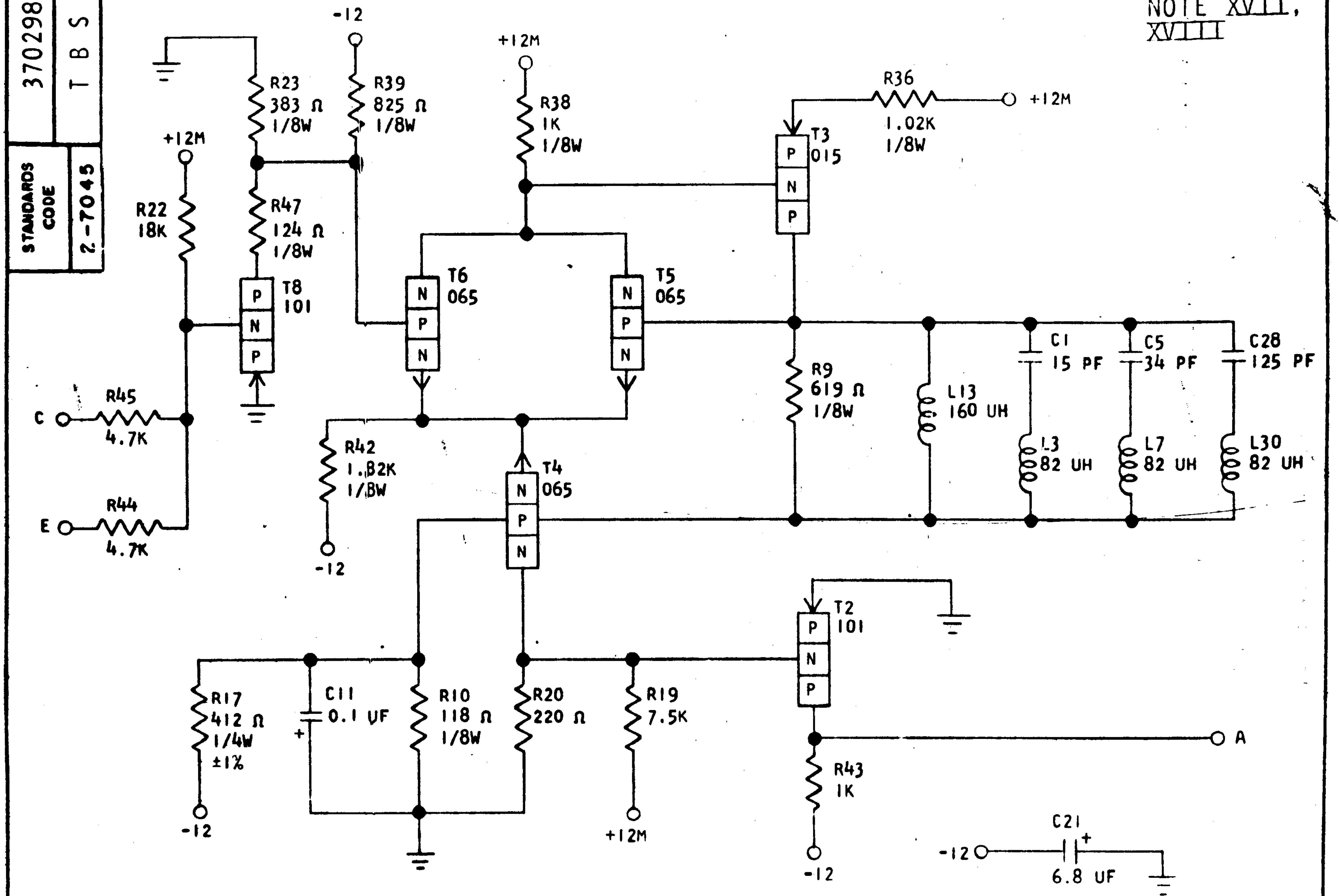
AJD

370298
T B S -

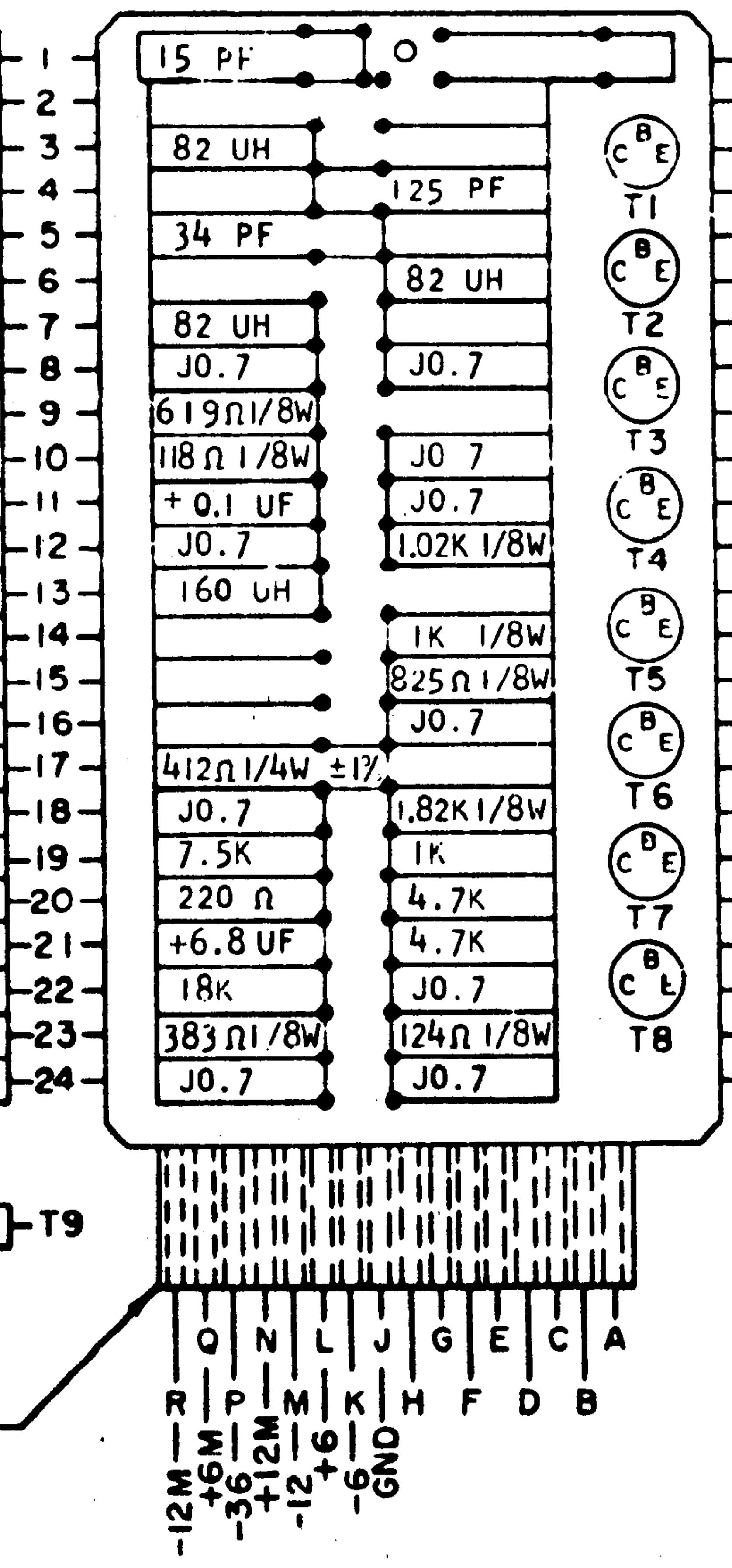
STANDARDS CODE
2-7045

SDTRL - OSCILLATOR, 667 KC S LINE GATED

370298
RESTRICTED
NOTE XVII, XVIII



492514	1
	2
483094	3
	4
492389	5
	6
483094	7
	8
479091	9
479046	10
124555	11
	12
483097	13
	14
	15
	16
491275	17
	18
300720	19
317007	20
124587	21
317028	22
479079	23
	24
	T9



25	
26	
27	
28	492406
29	
30	483094
31	
32	
33	
34	
35	
36	479103
37	
38	550020
39	479097
40	
41	
42	491242
43	213693
44	213549
45	213549
46	
47	479047
48	

T1		
T2	369177	101*
T3	526797	015
T4	526798	065
T5	526798	065
T6	526798	065
T7		
T8	369177	101*

NOTES
- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892298
- II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED (AS NOTE XV)
- IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- IIV
- XV ALL 1/8 WATT RESISTORS ARE ±1%
- XVI MOUNT TRANSISTOR 369177 WITH TRANSISTOR SPACER 483070
- * XVII TECHNICAL LABORATORY EVALUATION INCOMPLETE. ADDITIONAL USAGE TO BE AVOIDED. THIS PART SUBJECT TO WITHDRAWAL
- XVIII RESTRICTED TO THE UTA MACHINE ONLY

B

COMPONENT SIDE

CIRCUIT AND PACKAGING STANDARD		
APPROVAL	DATE	HOLE PATTERN
KMT	8-2-60	493457

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- SDTRL-OSC. 667 KC S LINE GATED			
DESIGN	DAS	6-28-60	TYPE	SMS UTA
DETAIL	DAS	6-28-60	SCALE	NONE
CHECK			DRAW	VE 8-29-60
APPRO			CHECK	9-6-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
9-22-60	109911	NOTE XVII			
10-7-60	D110151	NOTE XVII			
3-9-61	111390	NOTE XVII			
5-27-61	112020	NOTE XVII			
8-28-61	112437	NOTE XVII			

DEVELOPMENT NO.
2547-1199

370298

W6

370299

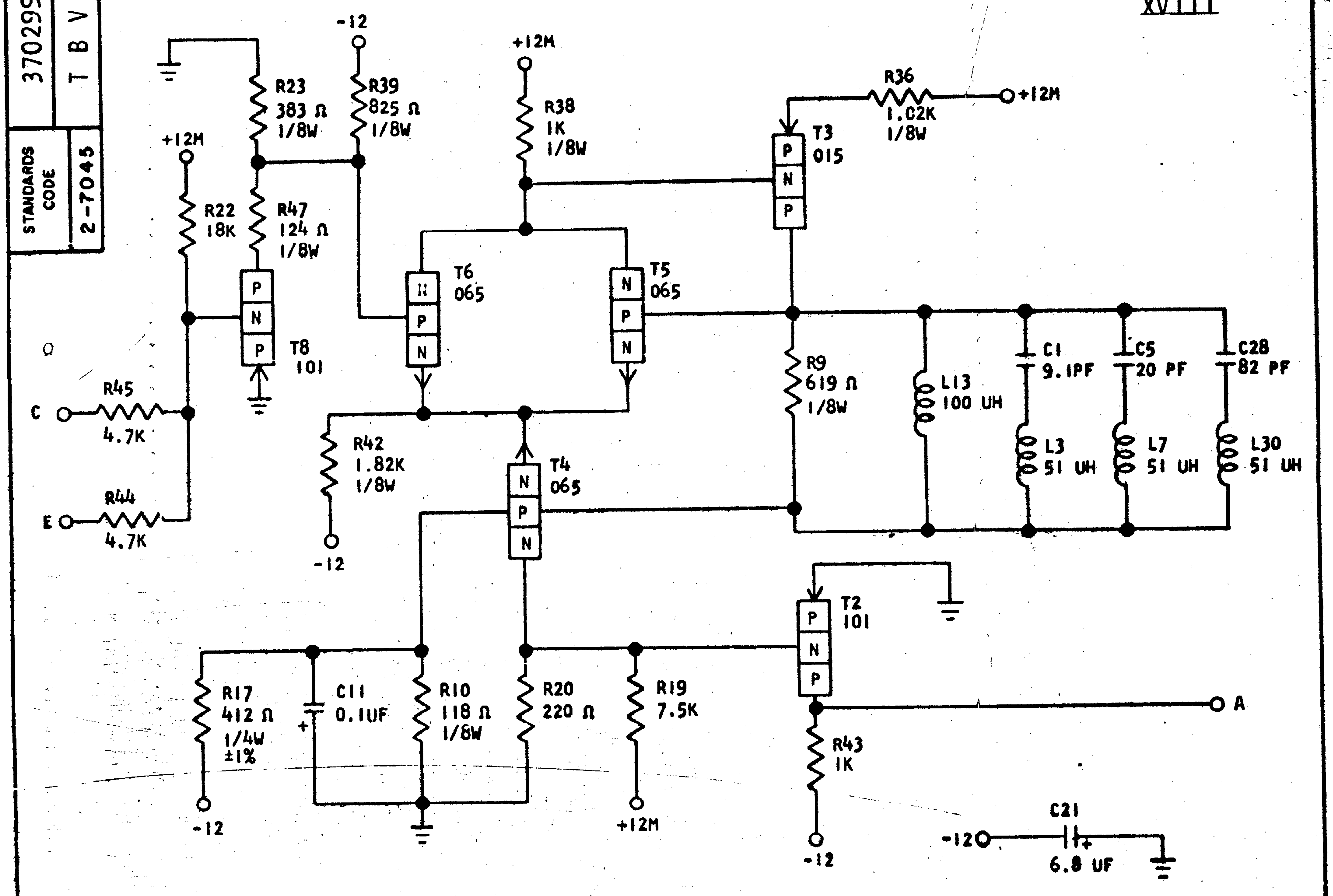
T B V -

STANDARDS CODE 2-7045

SDTRL - OSCILLATOR, 1 MC S LINE GATED

370299

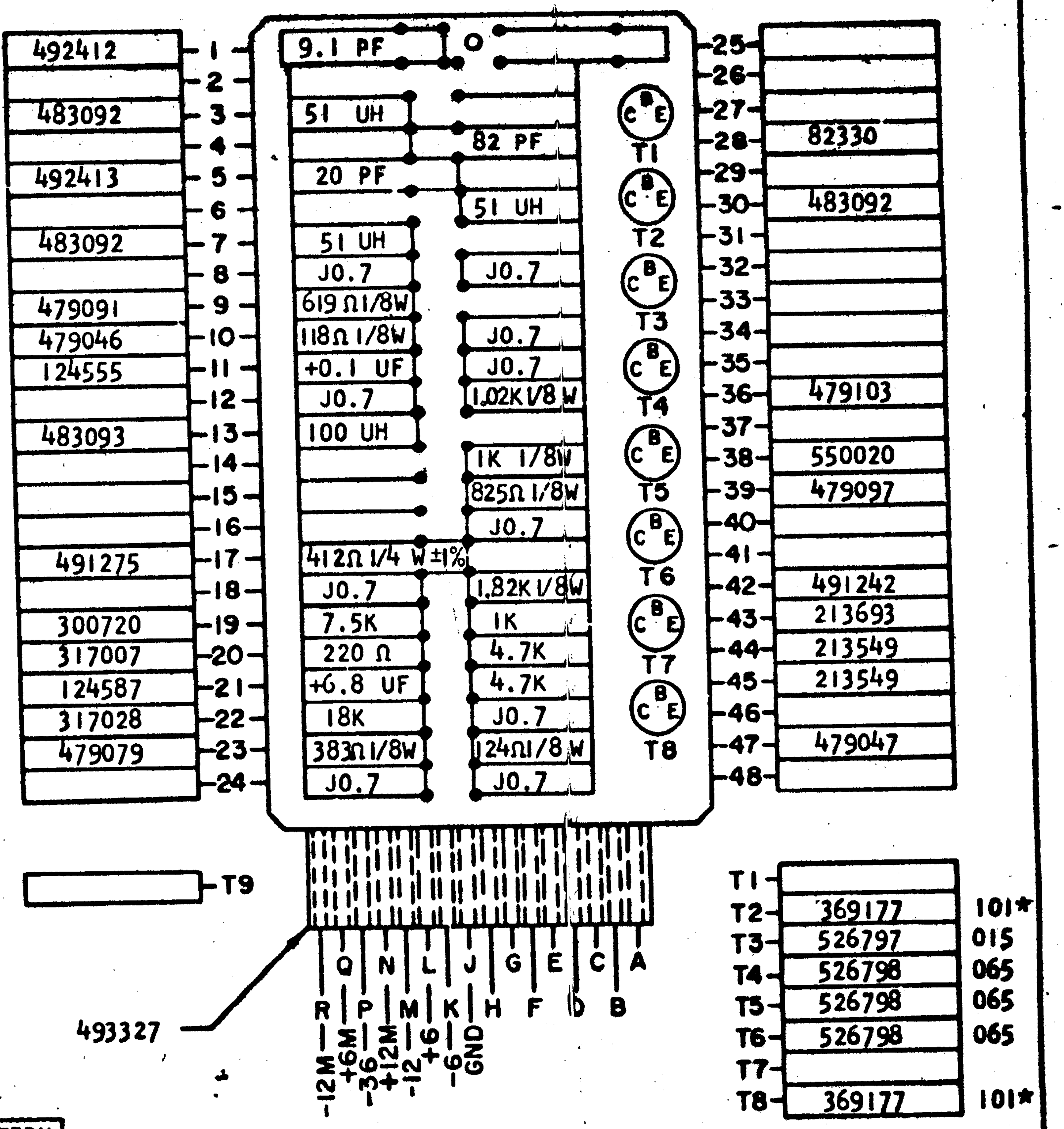
RESTRICTED
NOTE XVII, XVIII



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892299
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED (AS NOTE XV)
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- XIV
- XV ALL 1/8 WATT RESISTORS ARE ±1%
- XVI MOUNT TRANSISTOR 369177 WITH TRANSISTOR SPACER 483070

- * XVII TECHNICAL LABORATORY EVALUATION INCOMPLETE. ADDITIONAL USAGE TO BE AVOIDED. THIS PART SUBJECT TO WITHDRAWAL
- XVIII RESTRICTED TO THE UTA MACHINE ONLY



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD		
APPROVAL	DATE	HOLE PATTERN
KMT	8-2-60	493457

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- SDTRL-OSC, 1 MC S LINE GATED		
DESIGN	TB 6-30-60	TYPE	SMS UTA
DETAIL	TB 6-30-60	SCALE	NONE
CHECK	D.S 6-30-60	DRAW	VE 8-29-60
APPRO	[illegible]	CHECK	[illegible] 9-6-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
9-22-60	109911	NOTE XVII			
3-9-61	111390	NOTE XVII			
5-27-61	112020	NOTE XVII			
10-4-61	112434	NOTE XVII			

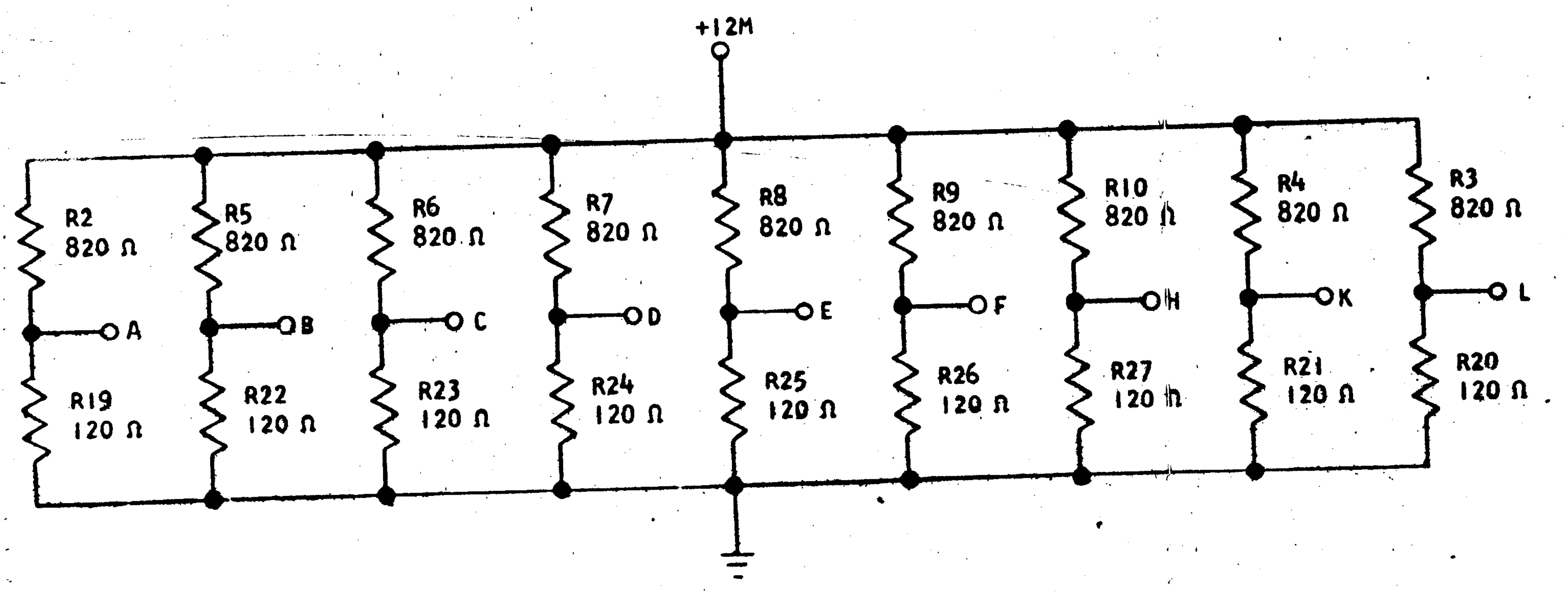
DEVELOPMENT NO. 2547-1200

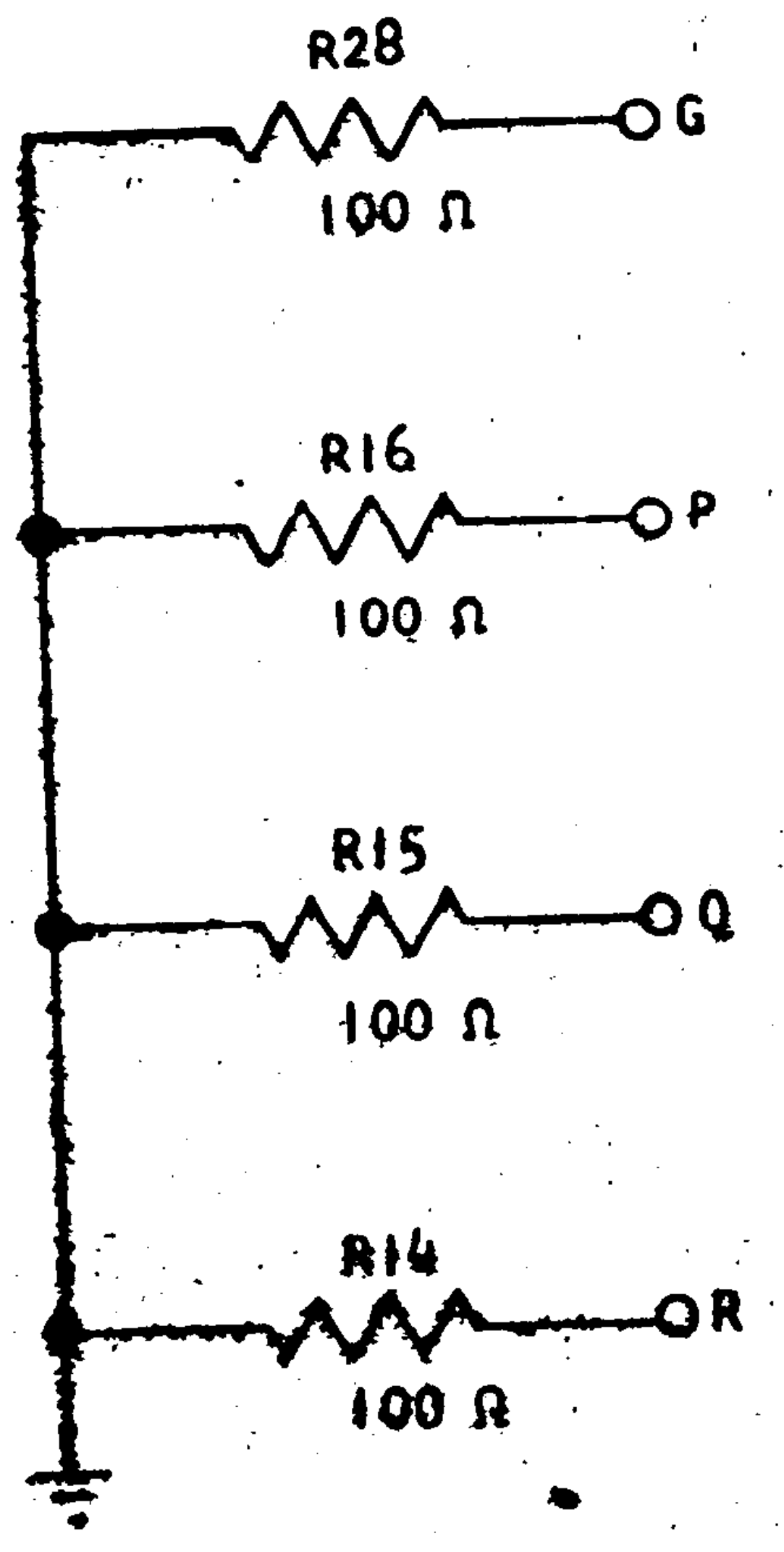
370299

370334

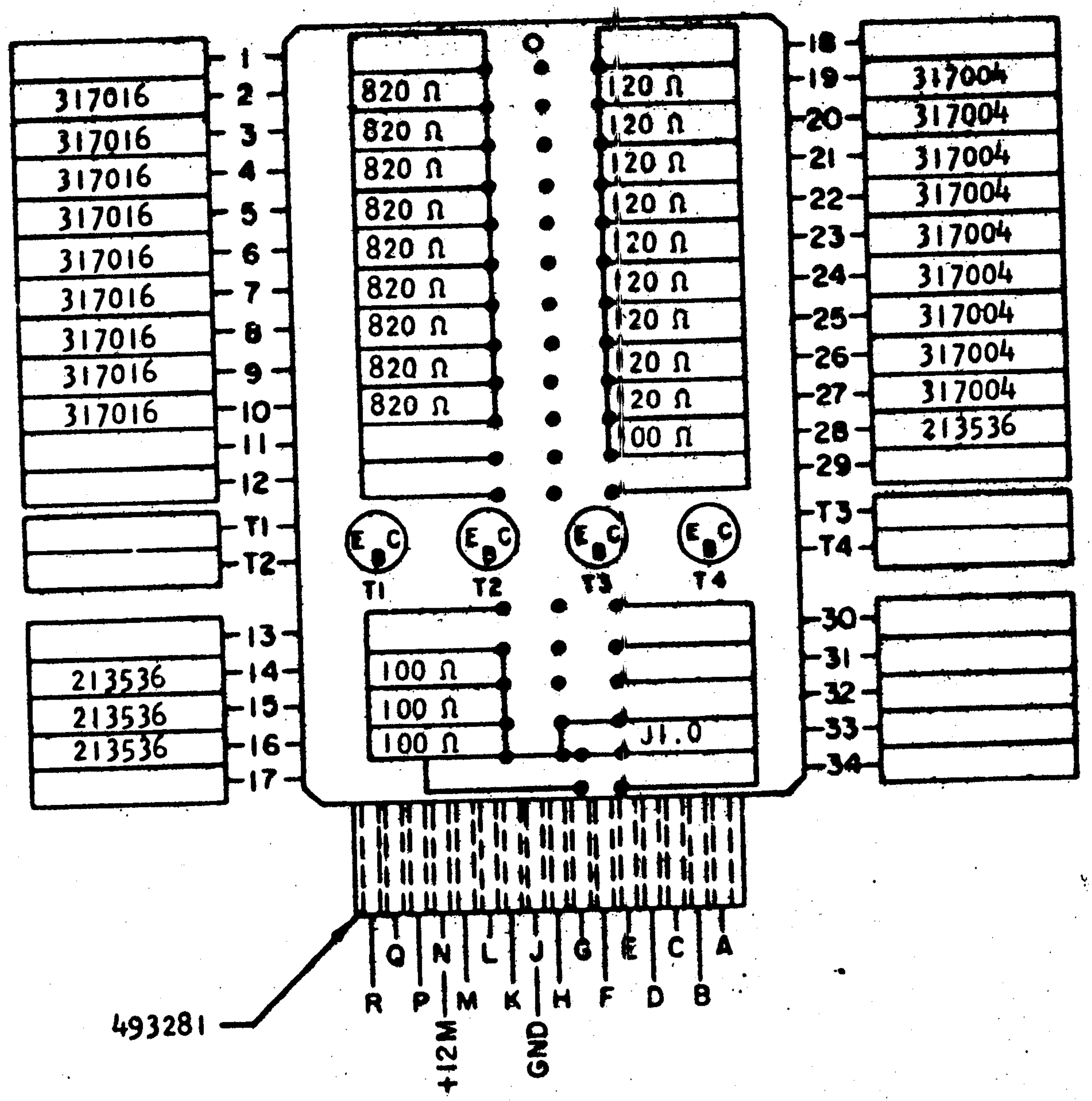
370334	T C K -
STANDARDS CODE	2-7045

SDTRL - END OF LINE TERMINATORS





NOTES
- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892333
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT	8-29-60

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- SDTRL - END OF LINE TERMINATORS			
DESIGN	DAS	8-16-60	TYPE	SMS
DETAIL	DAS	8-16-60	SCALE	NONE
CHECK	GHS	8-26-60	DRAW	VE 10-25-60
APPRO	[illegible]	[illegible]	CHECK	NH 10.5.60

82-3977 8-24-60

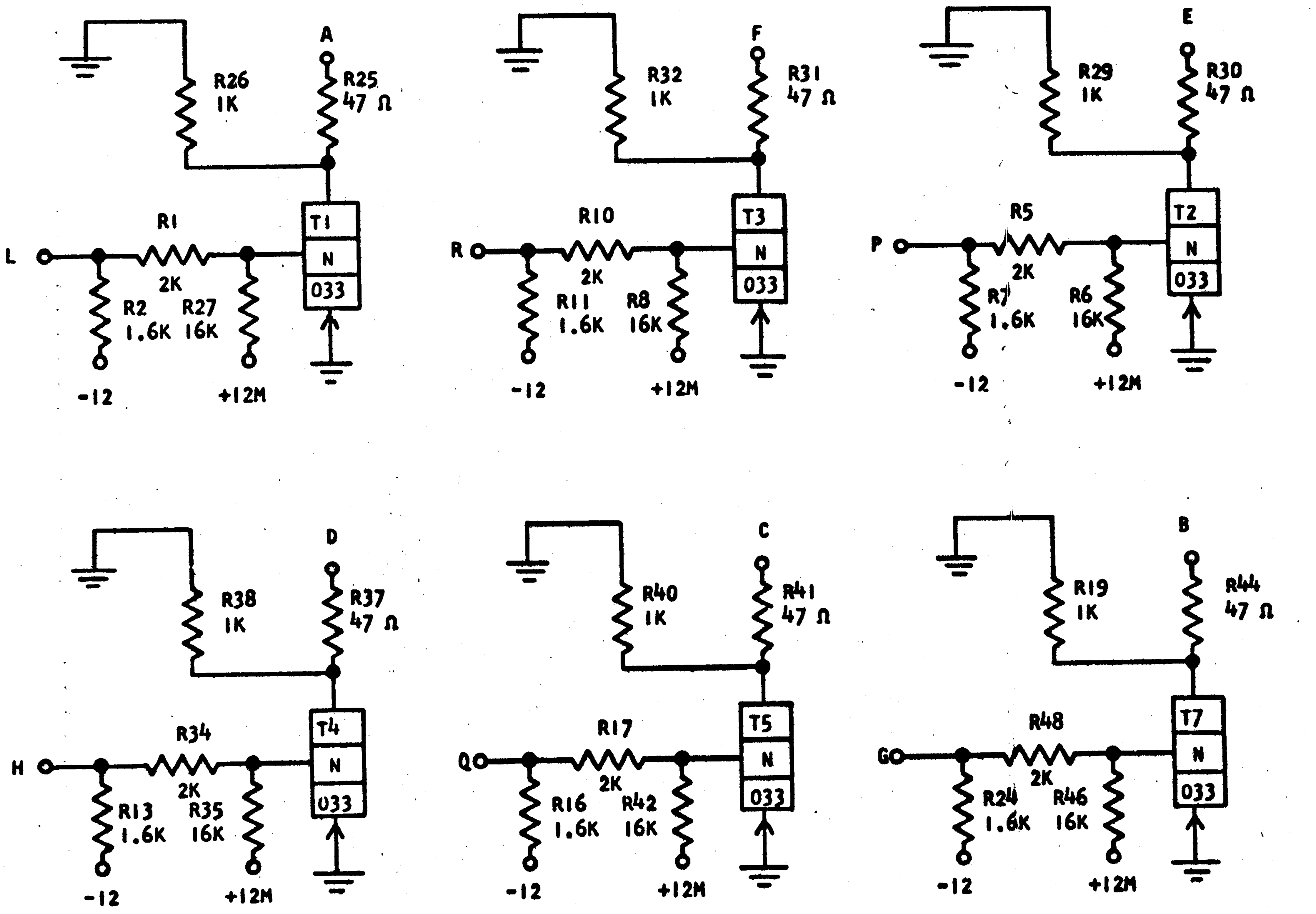
DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
10-28-60	110170	DWB				2547-1309

370334

370347	DGS-
STANDARDS CODE	2-7045

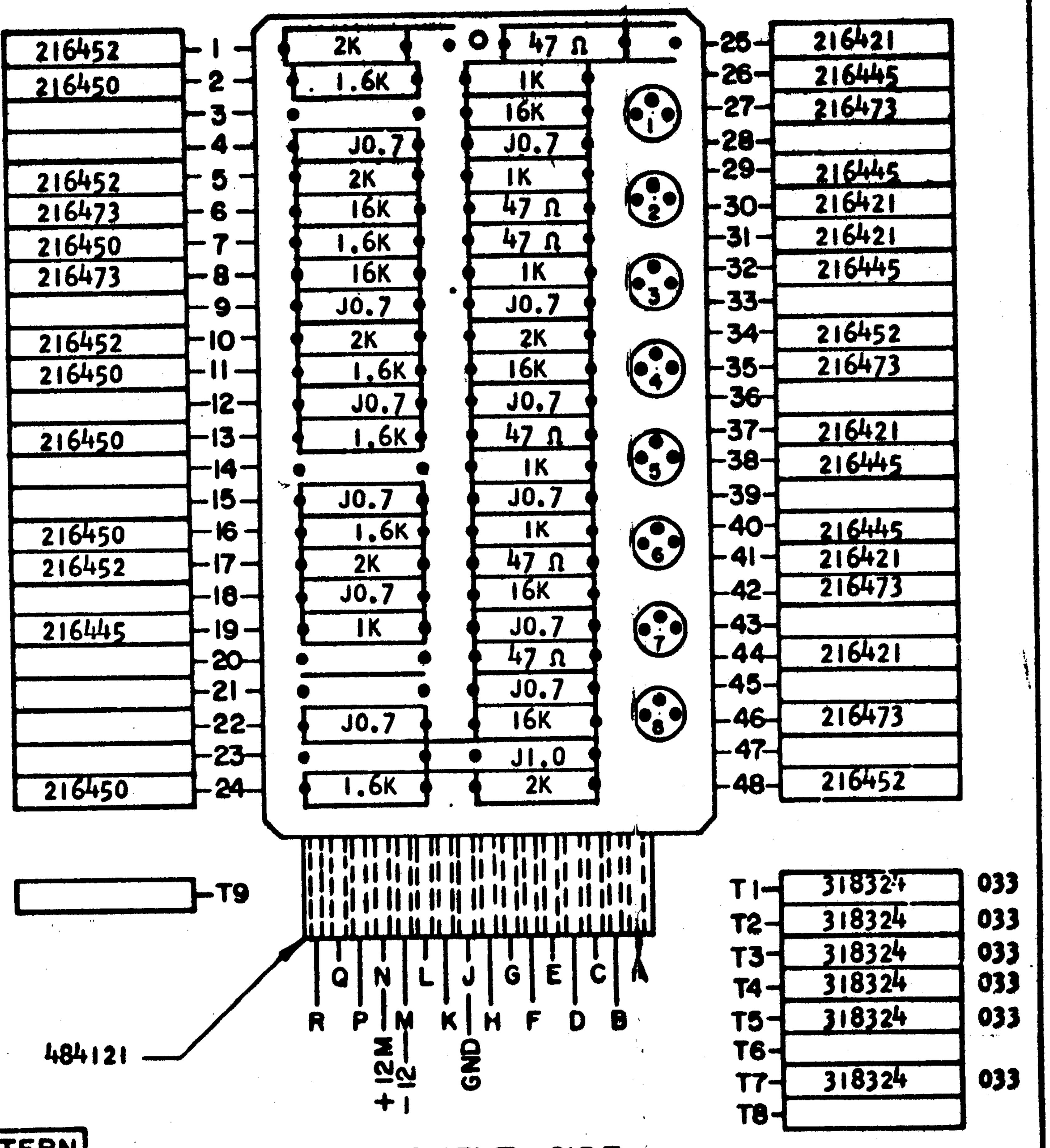
370347

SDTDL INDICATOR DRIVER



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892347
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/4 WATT AND ± 5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV REFER TO FIELD SERVICE DRAWING PART NUMBER 729912 WHEN MAKING A CHANGE TO THIS CIRCUIT



1	216452
2	216450
3	
4	
5	216452
6	216473
7	216450
8	216473
9	
10	216452
11	216450
12	
13	216450
14	
15	
16	216450
17	216452
18	
19	216445
20	
21	
22	
23	
24	216450

25	216421
26	216445
27	216473
28	
29	216445
30	216421
31	216421
32	216445
33	
34	216452
35	216473
36	
37	216421
38	216445
39	
40	216445
41	216421
42	216473
43	
44	216421
45	
46	216473
47	
48	216452

T1	318324	033
T2	318324	033
T3	318324	033
T4	318324	033
T5	318324	033
T6		
T7	318324	033
T8		

COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
HDH GS	11-21-60

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.				
NAME	CARD ASM TSTR — SDTDL INDICATOR DRIVER			
DESIGN	PRH		MODEL	SMS
DETAIL			SCALE	NONE
CHECK			DRAW	VE 6-13-62
APPRO	GWS	12-2-60	CHECK	6-15-62

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
12-2-60	110826	IWB			
5-25-61	112034	IWB			
1-10-62	113675	IWB			
6-21-62	REDRAWN				
3-1-63	116026	MDL			

DEVELOPMENT NO.
X0520

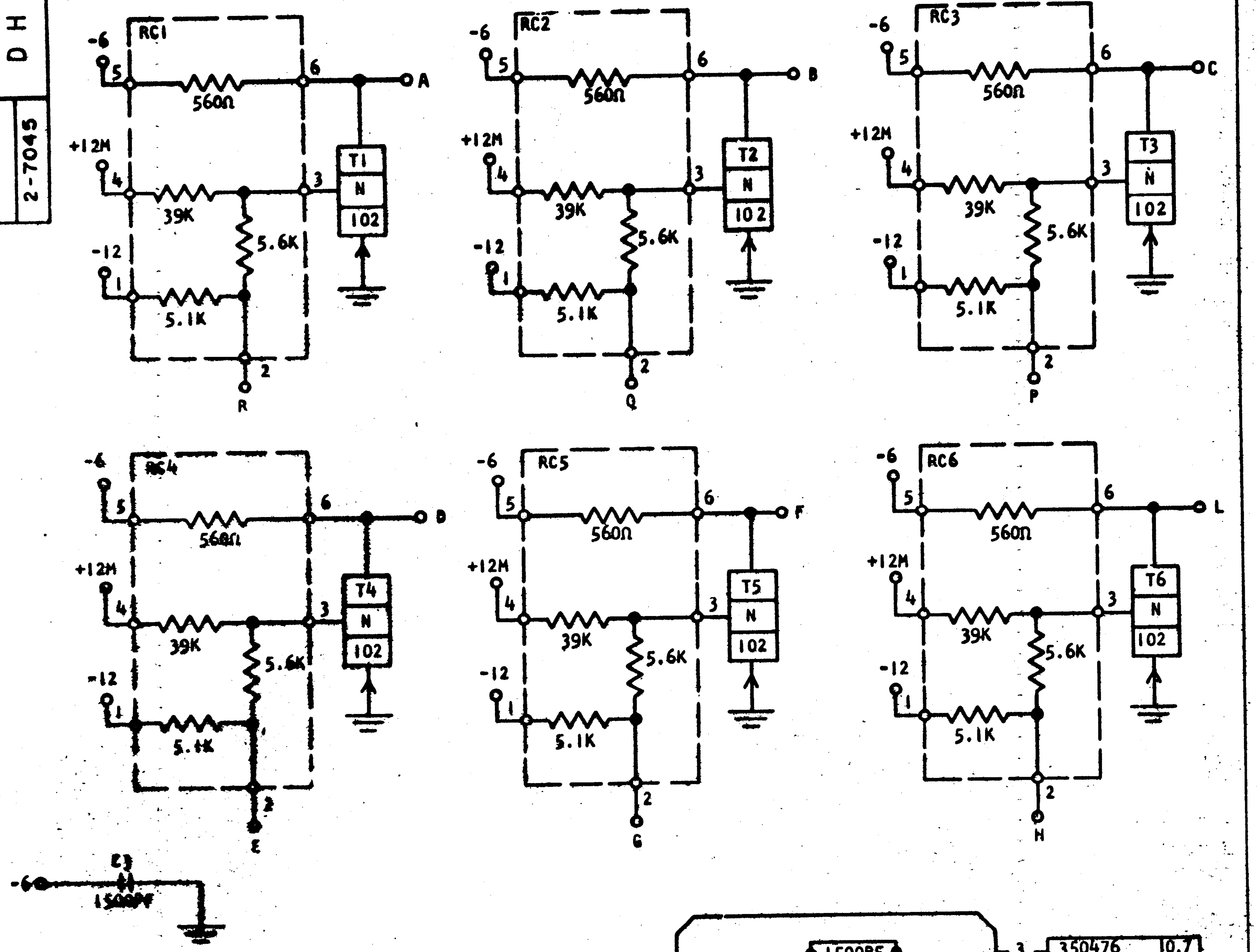
370347

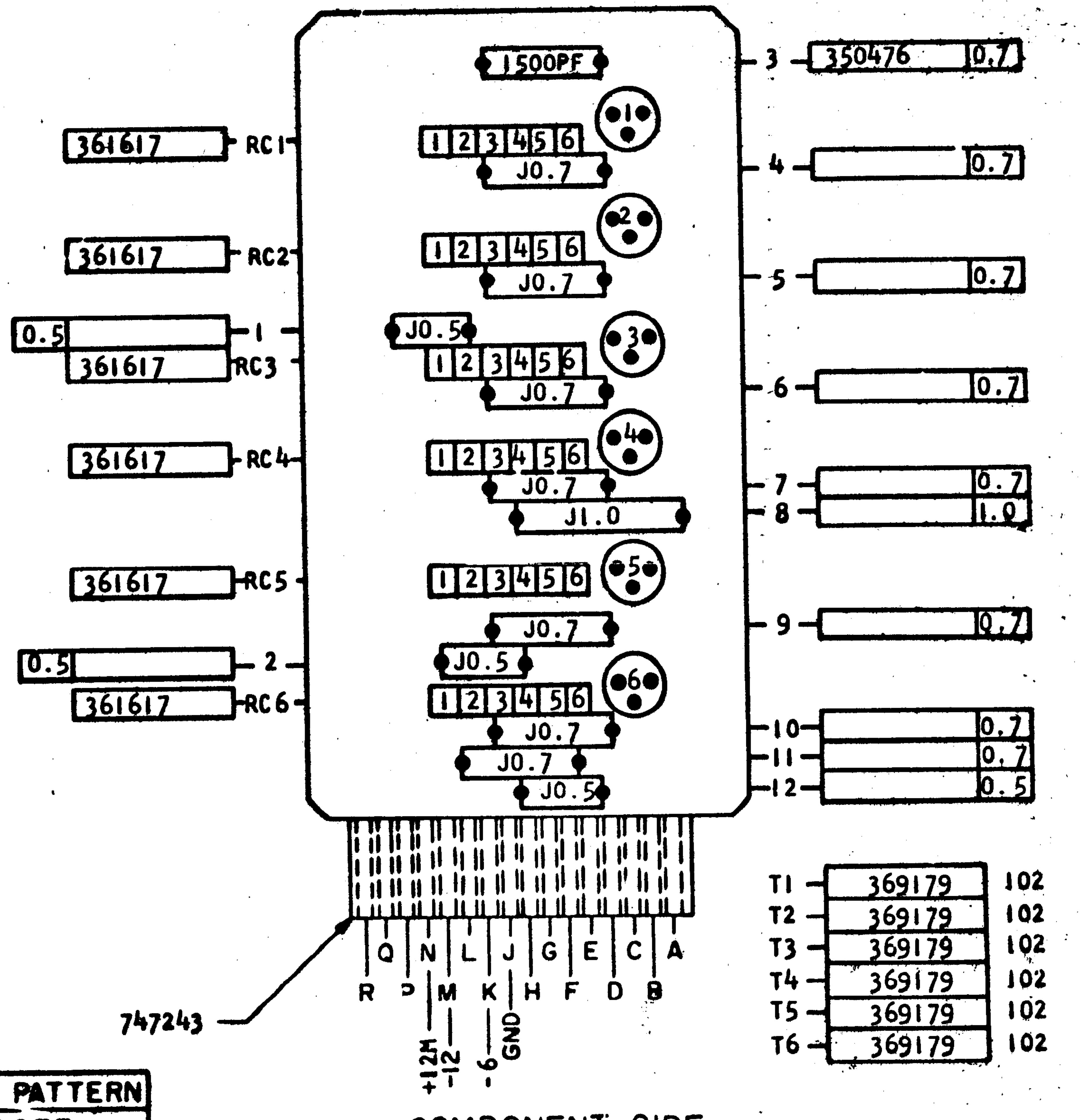
82-3987-2 6-22-61

INVERTER LOW SPEED WITH LOAD

370348

370348	DHB-
STANDARDS CODE	2-7045





COMPONENT SIDE

NOTES

- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892380
- II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV POSITIONS T1 THRU T6 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING
- XV REFER TO FIELD [illegible] E DRAWING PART NUMBER 729921 WHEN MAKING A CHANGE TO THIS CIRCUIT

B

DPD CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
HDH (GS)	11-23-60

HOLE PATTERN
490377

INTERNATIONAL BUSINESS MACHINES CORP.				
NAME	CARD ASM TSTR- INVERTER LOW SPEED WITH LOAD			
DESIGN	JGJ		MODEL	SMS
DETAIL	RCH	9-29-60	SCALE	NONE
CHECK	LRH	12-1-60	DRAW	LIG 5-8-63
APPRO	BES	12-2-60	CHECK	RLd 6-4-63

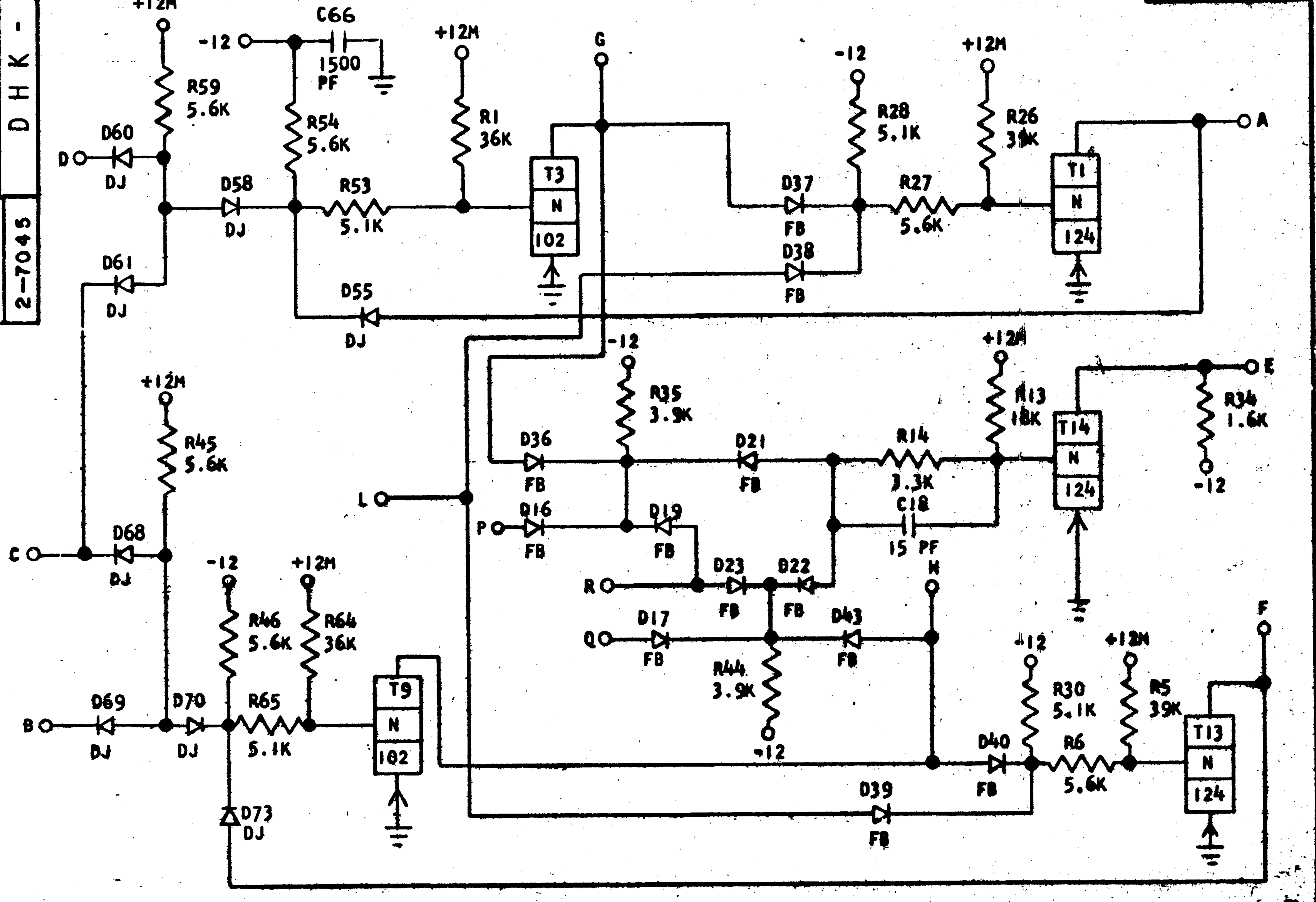
DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
SEE INDEX CARD					
5-12-61	111245	NOTE XIV			
6-7-62	113941	MDL			
7-12-63	116192	MDL			

DEVELOPMENT NO.	370348
X0526	
CIRCUIT FAMILY	
SDTDL	

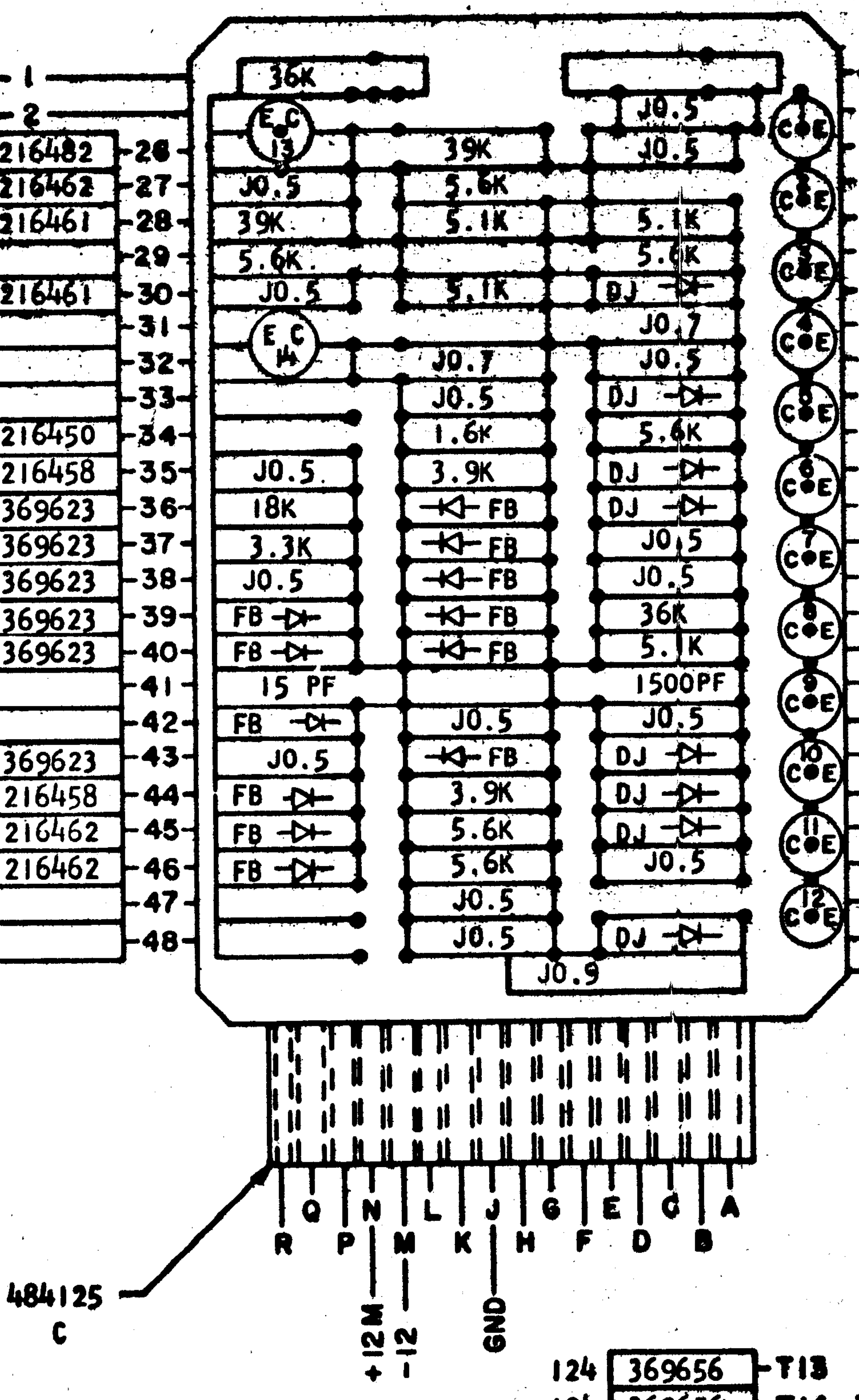
SDTDL LATCH WITH GATE OUT

370349

370349	DHK -
STANDARDS CODE	2-7045



		Pin			Pin
0.7	216481	1			
		2			
		3	0.7	216482	26
		4	0.7	216462	27
0.5	216482	5	0.5	216461	28
0.7	216462	6			29
		7	0.5	216461	30
		8			31
		9			32
		10			33
		11	0.5	216450	34
		12	0.5	216458	35
0.5	216474	13	0.5	369623	36
0.5	216456	14	0.5	369623	37
		15	0.5	369623	38
0.5	369623	16	0.5	369623	39
0.5	369623	17	0.5	369623	40
0.7	350408	18			41
0.5	369623	19			42
		20	0.5	369623	43
0.5	369623	21	0.5	216458	44
0.5	369623	22	0.5	216462	45
0.5	369623	23	0.5	216462	46
		24			47
		25			48



Pin		
49		
50		
51		
52		
53	216461	0.5
54	216462	0.7
55	369218	0.5
56		
57		
58	369218	0.5
59	216462	0.5
60	369218	0.5
61	369218	0.5
62		
63		
64	216481	0.5
65	216461	0.5
66	350476	0.7
67		
68	369218	0.5
69	369218	0.5
70	369218	0.5
71		
72		
73	369218	0.5
74		

T1	369656	124
T2		
T3	369179	102
T4		
T5		
T6		
T7		
T8		
T9	369179	102
T10		
T11		
T12		

124	369656	T13
124	369656	T14
		T15
		T16

COMPONENT SIDE

NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892349

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/4 WATT AND ±5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV REFER TO FIELD SERVICE DRAWING PART NUMBER 729929 WHEN MAKING A CHANGE TO THIS CIRCUIT

XV MOUNT TRANSISTOR PART 369656 WITH TRANSISTOR SPACER 483070 IN POSITION T1 ONLY

XVI POSITIONS T3, T9, T13 & T14 ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TSTR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING.

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
HDH	12-1-60

HOLE PATTERN
493460

INTERNATIONAL BUSINESS MACHINES CORP.			
NAME	CARD ASM TSTR -SDTDL LATCH WITH GATE OUT		
DESIGN	TBJ 10-6-60	MODEL	SMS 1410
DETAIL	TBJ 10-6-60	SCALE	NONE
CHECK	AP 4-3-61	DRAW	VE 4-4-61
APPRO	CHS 4-10-61	CHECK	GFM 4-6-61

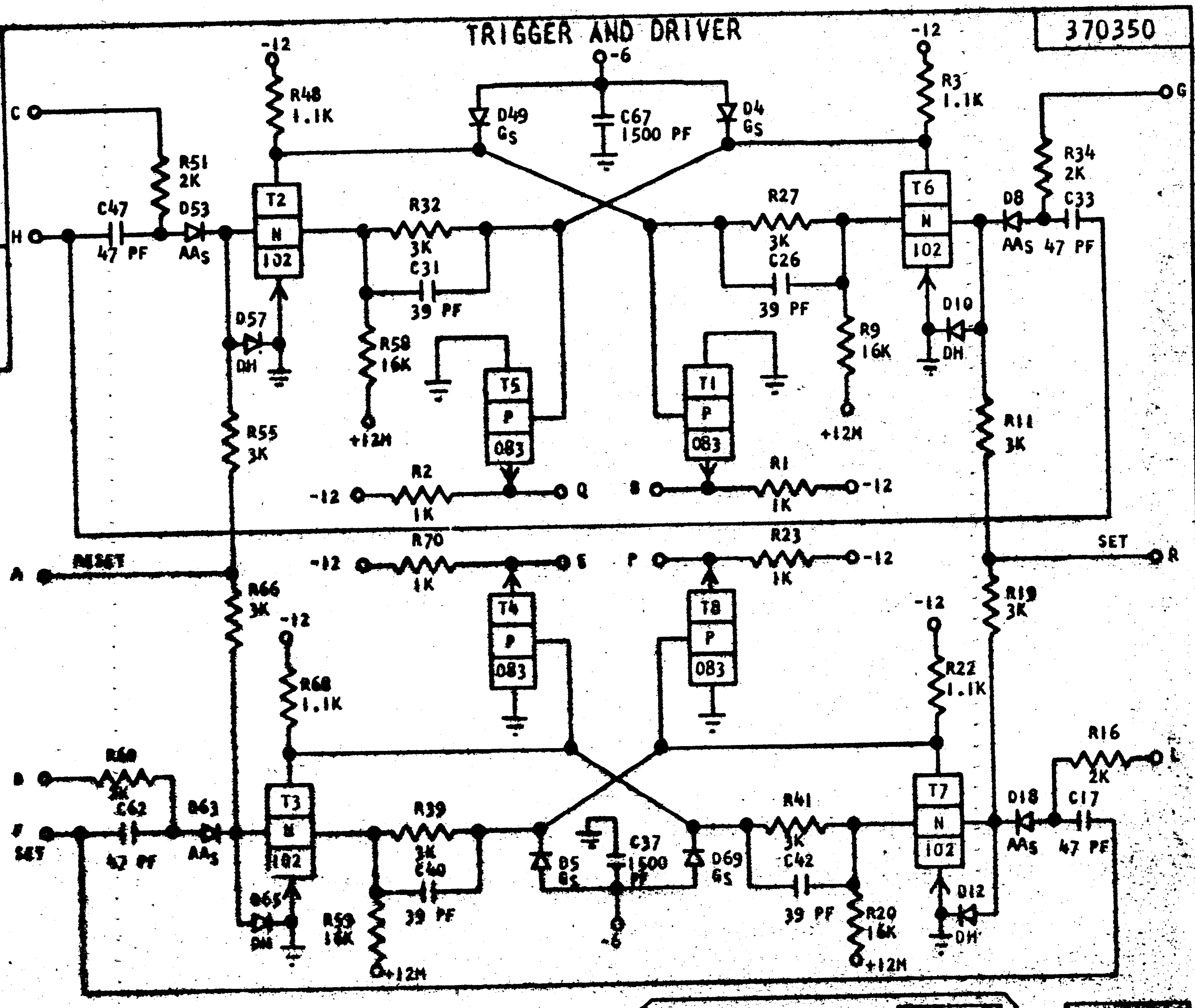
DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
12-5-60	110833	NOTE XIV	12-4-61	112747	NOTE XIV	X0568E
12-19-60	110930	NOTE XIV	6-14-62	113952	MDL	
2-1-61	D111078	NOTE XIV	4-10-63	116155	MDL	
4-10-61	111560	NOTE XIV				
5-16-61	111243	NOTE XIV				

82-3985 12-14-60

370350	DHF-
STANDARDS CODE	2-7045

TRIGGER AND DRIVER

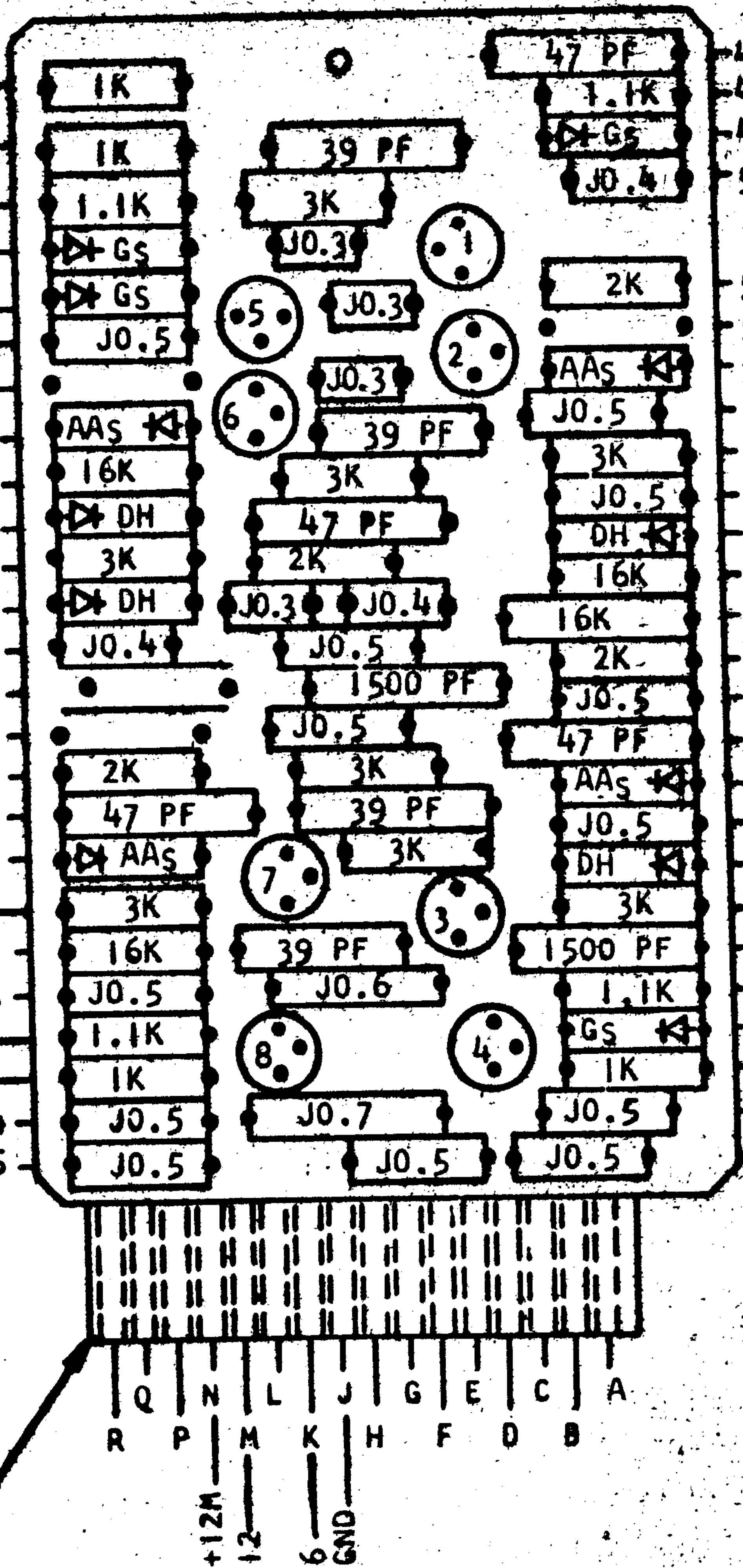
370350



NOTES

- I ~~CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892356~~
- II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/4 WATT AND ± 5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV REFER TO FIELD SERVICE DRAWING PART NUMBER 729925 WHEN MAKING A CHANGE TO THIS CIRCUIT
- XVI POSITIONS T2,T3,T6 AND T7 ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING

0.5	216445	1			
0.5	216445	2	0.7	350418	26
0.5	216446	3	0.5	595357	27
0.5	503592	4	0.3		28
0.5	503592	5	0.3		29
0.5		6			
		7	0.3		30
0.5	491008	8	0.7	350418	31
0.5	216473	9	0.5	595357	32
0.5	369217	10	0.7	350420	33
0.5	595357	11	0.5	216452	34
0.5	369217	12	0.3	35 0.4	46
0.4		13	0.5		36
		14	0.7	350476	37
		15	0.5		38
0.5	216452	16	0.5	595357	39
0.7	350420	17	0.7	350418	40
0.5	491008	18	0.5	595357	41
0.5	595357	19			
0.5	216473	20	0.7	350418	42
0.5		21	0.6		43
0.5	216446	22			
0.5	216445	23			
0.5		24	0.7		44
0.5		25	0.5		45



47	350418	0.7
48	216446	0.5
49	503592	0.5
50		0.4
51	216452	0.5
52		
53	491008	0.5
54		0.5
55	595357	0.5
56		0.5
57	369217	0.5
58	216473	0.5
59	216473	0.7
60	216452	0.5
61		0.5
62	350420	0.7
63	491008	0.5
64		0.5
65	369217	0.5
66	595357	0.5
67	350476	0.7
68	216446	0.5
69	503592	0.5
70	216445	0.5
71		0.5
72		0.5

T1	318325	083
T2	369179	102
T3	369179	102
T4	318325	083
T5	318325	083
T6	369179	102
T7	369179	102
T8	318325	083

COMPONENT SIDE

B

DPD CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
HDH (GS)	12-1-60

HOLE PATTERN
493492

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR - TRIGGER AND DRIVER				
DESIGN			MODEL	SMS 1410	
DETAIL			SCALE	NONE	
CHECK	RFS	12-3-60	DRAW	LIG	11-26-63
APPRO	BES	12-5-60	CHECK	ENS	12-10-63

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
SEE INDEX CARD					
12-13-61	D113142	XIV			
8-17-62	D114422	MDL			
12.30.63	119217	BWS			

DEVELOPMENT NO.
X05698
CIRCUIT FAMILY
SDTDL

370350

6

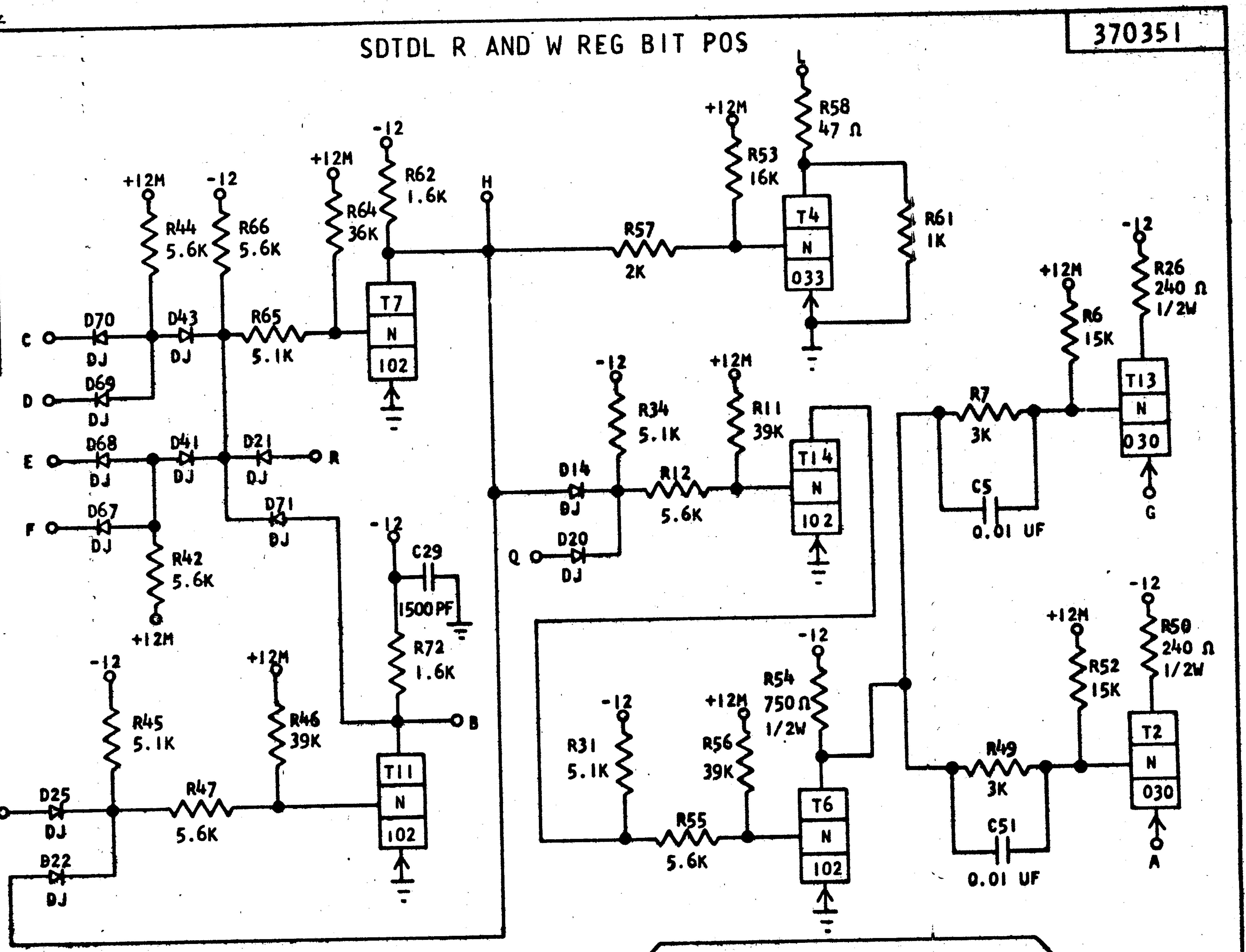
370351

D H G -

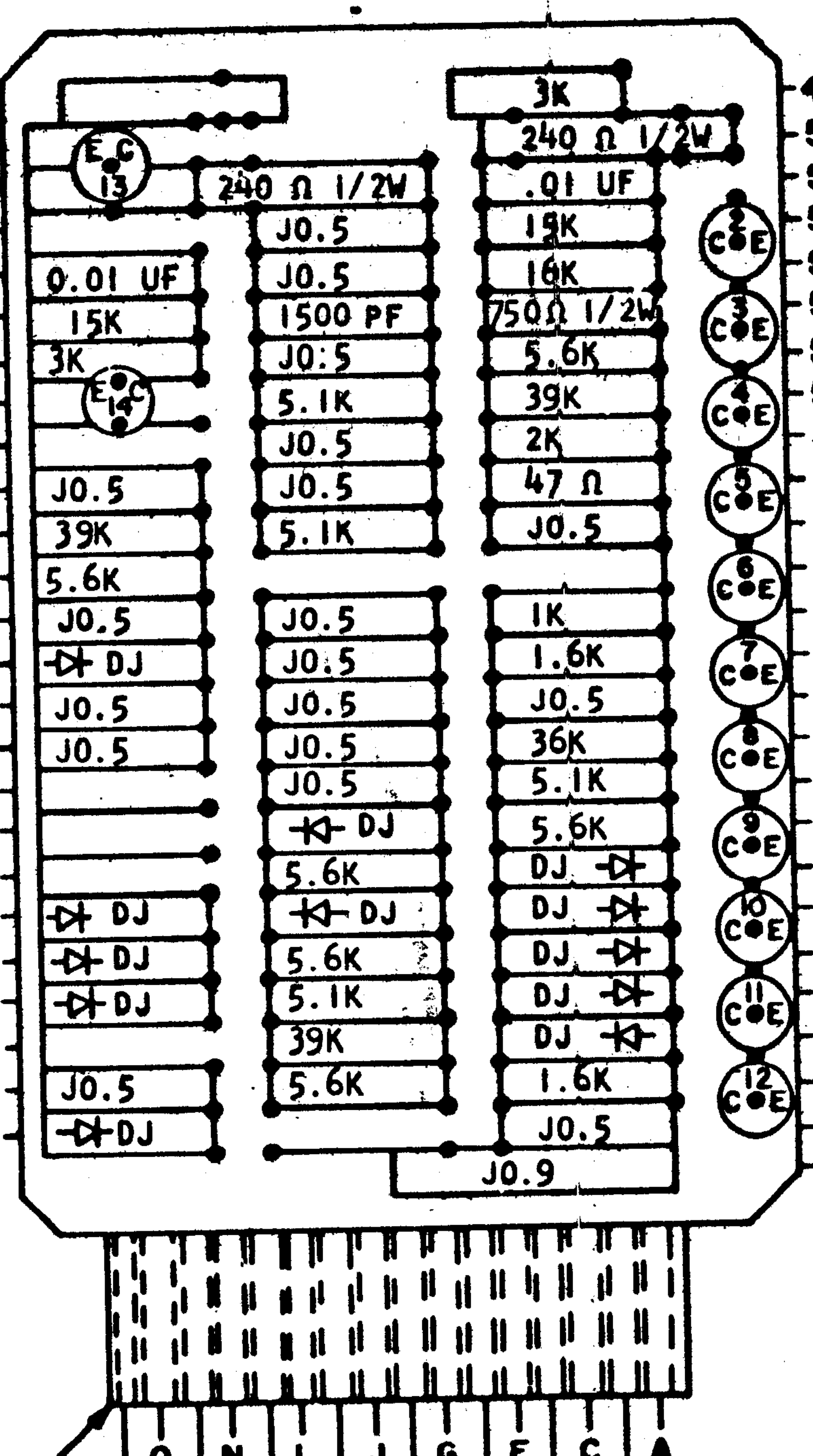
STANDARDS CODE 2-7045

SDTDL R AND W REG BIT POS

370351



		1				
		2				
		3	0.7	333202	26	
		4			27	
0.5	492411	5			28	
0.5	216472	6	0.5	350476	29	
0.5	595357	7			30	
		8	0.5	216461	31	
		9			32	
		10			33	
0.5	216482	11	0.5	216461	34	
0.5	216462	12			35	
		13			36	
0.5	369218	14			37	
		15			38	
		16			39	
		17			40	
		18	0.5	369218	41	
		19	0.5	216462	42	
0.5	369218	20	0.5	369218	43	
0.5	369218	21	0.5	216462	44	
0.5	369218	22	0.5	216461	45	
		23	0.5	216482	46	
		24	0.5	216462	47	
0.5	369218	25			48	



49	595357	0.5
50	333202	0.8
51	492411	0.5
52	216472	0.5
53	216473	0.5
54	317015	0.5
55	216462	0.5
56	216482	0.5
57	216452	0.5
58	216421	0.5
59		
60		
61	216445	0.5
62	216450	0.5
63		
64	216481	0.5
65	216461	0.5
66	216462	0.5
67	369218	0.5
68	369218	0.5
69	369218	0.5
70	369218	0.5
71	369218	0.5
72	216450	0.5
73		
74		

NOTES

- **X** CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892351
- **XI** ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- **XII** ALL RESISTORS ARE 1/4 WATT AND ±5% UNLESS OTHERWISE NOTED
- **XIII** "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- **XIV**
- **XV** MOUNT TRANSISTOR PART NUMBER 369179 WITH TRANSISTOR SPACER 483070.
- **XVI** REFER TO FIELD SERVICE DRAWING PART NUMBER 729926 WHEN MAKING A CHANGE TO THIS CIRCUIT

T1		
T2	369099	030
T3		
T4	318324	033
T5		
T6	369179	102
T7	369179	102
T8		
T9		
T10		
T11	369179	102
T12		

130	369099	T13
102	369179	T14
		T15
		T16

COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
HDH	12-28-60

HOLE PATTERN
493460

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR SDTDL R AND W REG BIT POS		
DESIGN	RFS 11-14-60	MODEL	SMS 1410
DETAIL	RFS 11-14-60	SCALE	NONE
CHECK	REC 12-3-60	DRAW	VE 6-19-61
APPRO	BES 12-5-60	CHECK	

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
SEE INDEX CARD			8-21-62	D114375	MDL
5-1-61	111794	NOTE XIV			
5-24-61	112033	NOTE XIV			
6-12-61	D112046	NOTE XIV			
12-12-61	113144	NOTE XIV			

DEVELOPMENT NO.
X0570C

370351

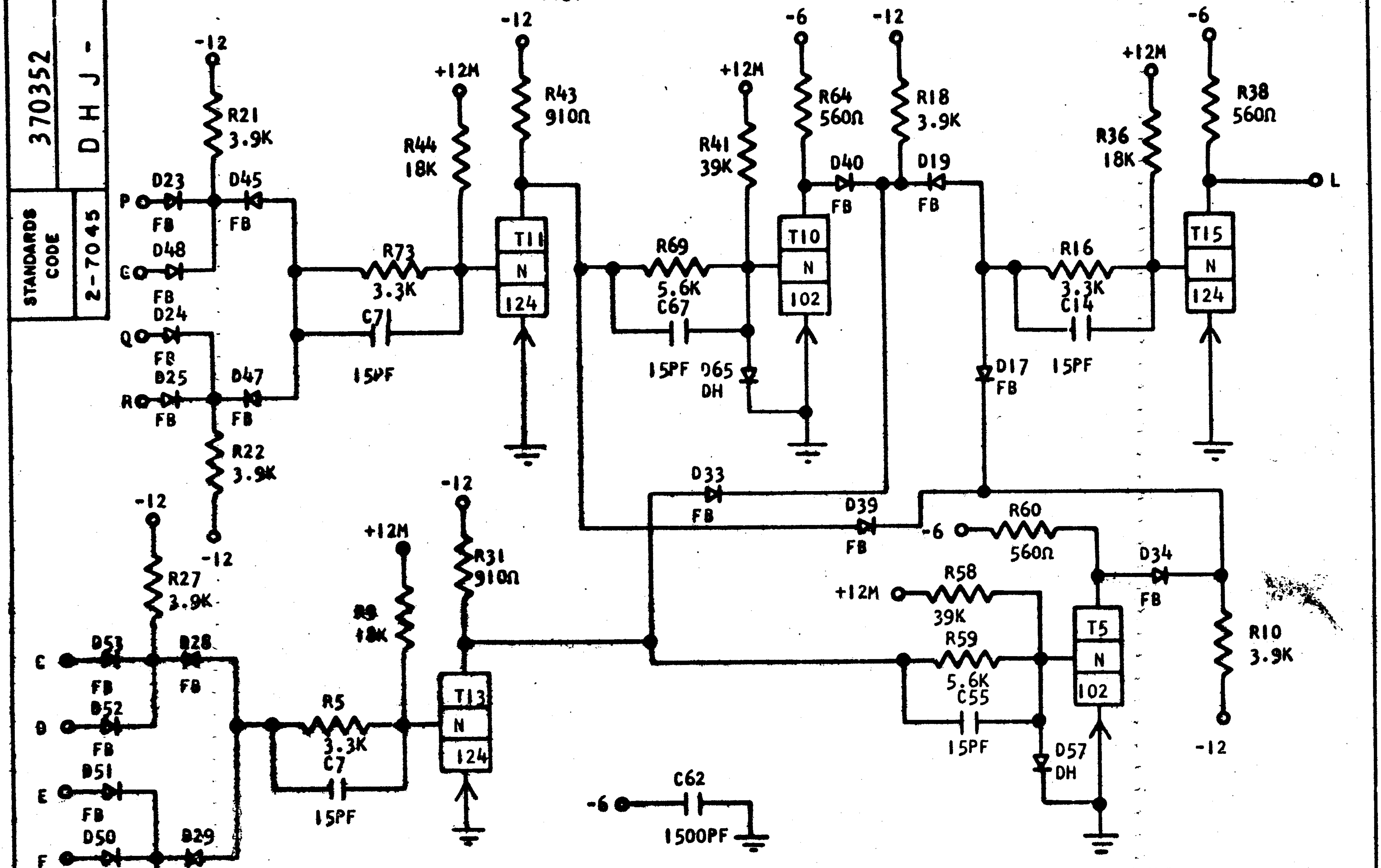
FORM 82-3985-4

82-3985 12-14-60

370352	D H J -
STANDARDS CODE	2-7045

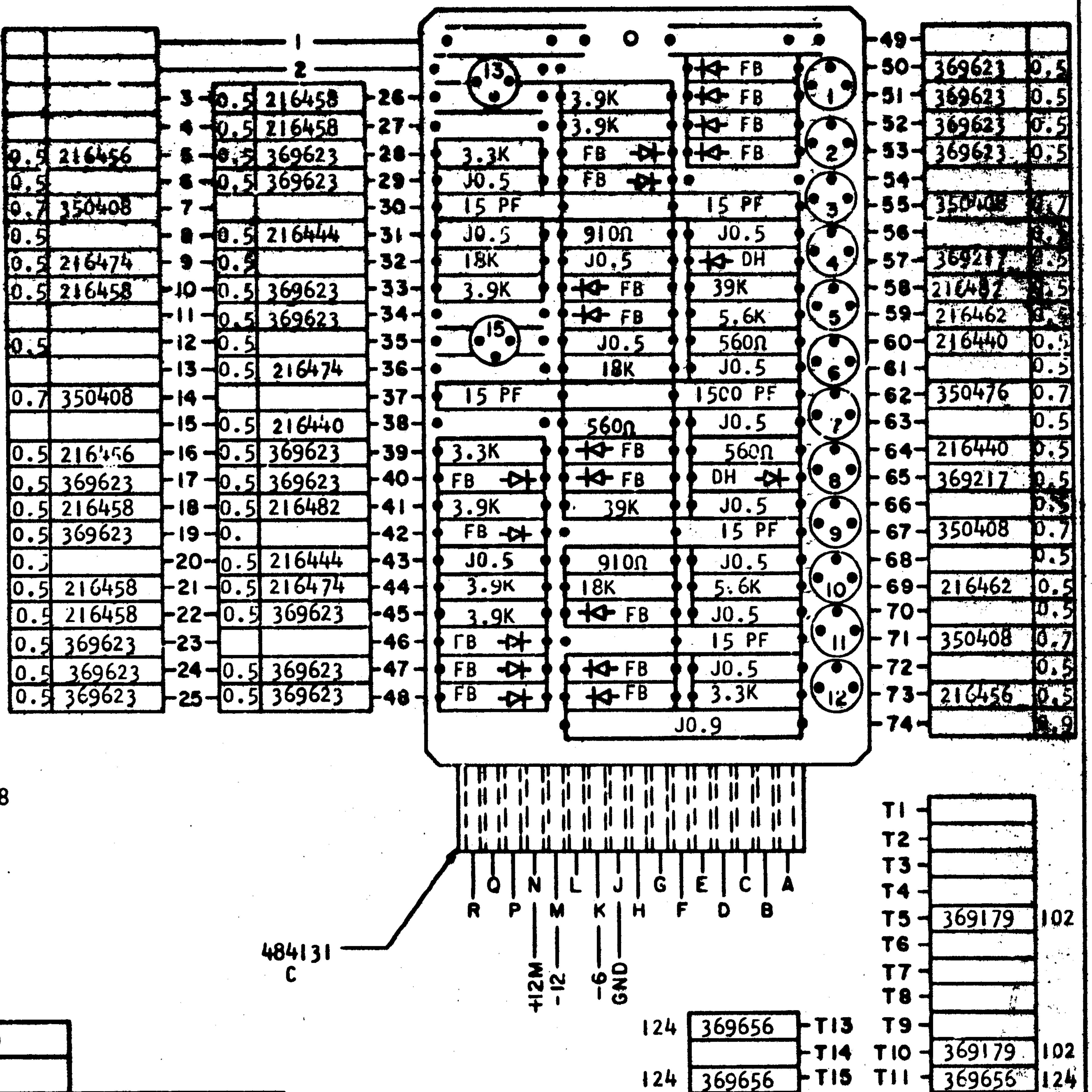
370352

MUP NUMBER 4



NOTES

- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892352
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/4 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV POSITIONS T5, T10, T11, T13, T15, ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING
- XV REFER TO FIELD SERVICE DRAWING PART NUMBER 729928 WHEN MAKING A CHANGE TO THIS CIRCUIT



Pin			Pin			Pin		
1						49		
2						50	369623	0.5
3			26	0.5	216458	51	369623	0.5
4			27	0.5	216458	52	369623	0.5
5	0.5	216456	28	0.5	369623	53	369623	0.5
6	0.5		29	0.5	369623	54		
7	0.7	350408	30			55	350408	0.7
8	0.5		31	0.5	216444	56		0.5
9	0.5	216474	32	0.5		57	369217	0.5
10	0.5	216458	33	0.5	369623	58	216482	0.5
11			34	0.5	369623	59	216462	0.5
12	0.5		35	0.5		60	216440	0.5
13			36	0.5	216474	61		0.5
14	0.7	350408	37			62	350476	0.7
15			38	0.5	216440	63		0.5
16	0.5	216456	39	0.5	369623	64	216440	0.5
17	0.5	369623	40	0.5	369623	65	369217	0.5
18	0.5	216458	41	0.5	216482	66		0.5
19	0.5	369623	42	0.		67	350408	0.7
20	0.5		43	0.5	216444	68		0.5
21	0.5	216458	44	0.5	216474	69	216462	0.5
22	0.5	216458	45	0.5	369623	70		0.5
23	0.5	369623	46			71	350408	0.7
24	0.5	369623	47	0.5	369623	72		0.5
25	0.5	369623	48	0.5	369623	73	216456	0.5
						74		0.9

124	369656	T13
		T14
124	369656	T15
		T16

T1		
T2		
T3		
T4		
T5	369179	102
T6		
T7		
T8		
T9		
T10	369179	102
T11	369656	124
T12		

COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H.D. HARFORD	12-1-60

HOLE PATTERN
493460

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR -SDTDL				
	NUP NUMBER, 4				
DESIGN			MODEL	SMS 1401	
DETAIL			SCALE	NONE	
CHECK	RFR	10-19-63	DRAW	LIG	10-10-63
APPRO	HDH	11-5-63	CHECK	RFR	10-19-63

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
SEE INDEX CARD						X0571
4-10-63	116155	MDL				
11-5-63	D118934	GWS				CIRCUIT FAMILY
						SDTDL

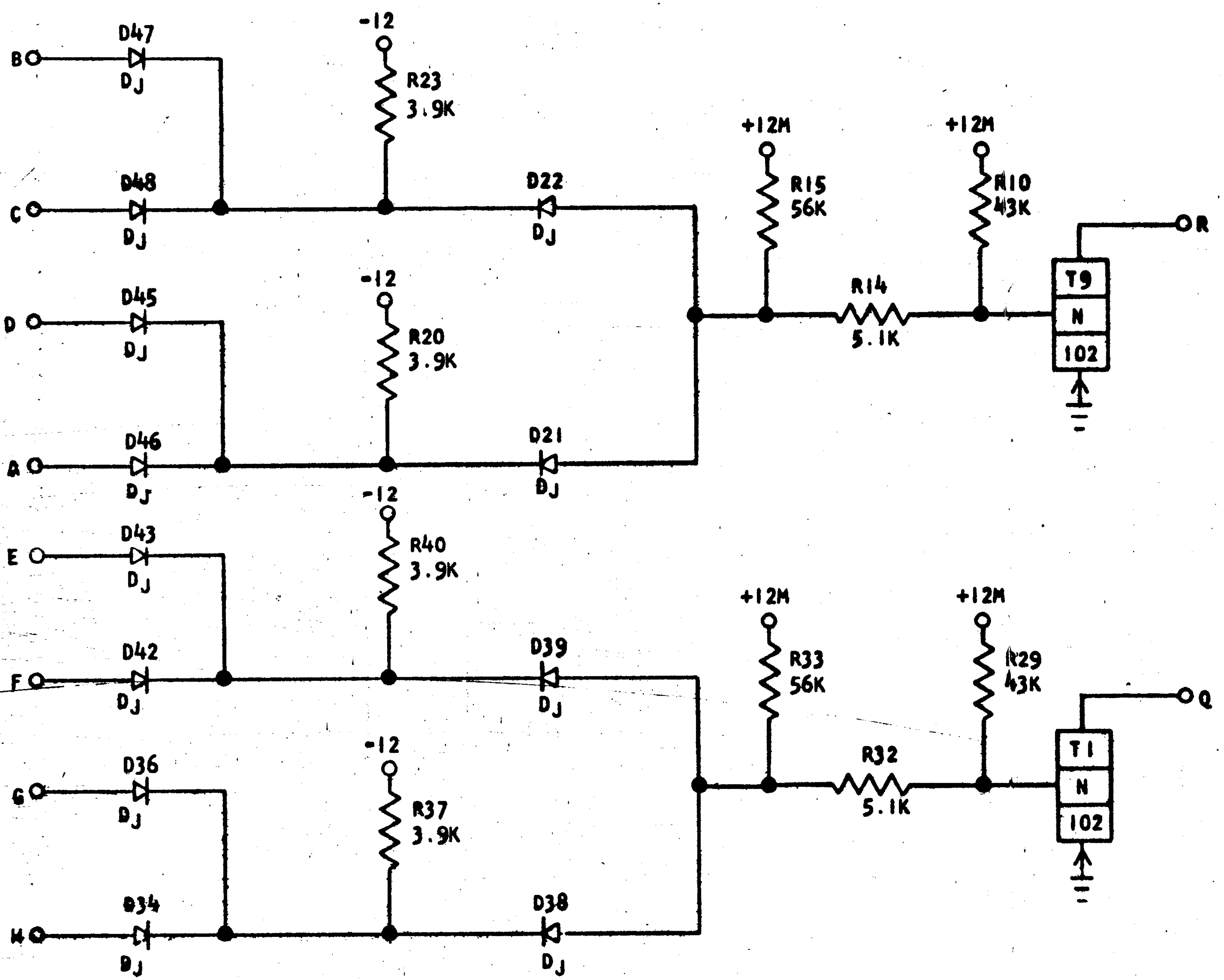
370352

82-4003-1 6-22-61

STANDARDS CODE	370358
2-7045	D H H -

370358

SDTDL DOUBLE LEVEL LOGIC BLOCK #2A LOW SPEED, WO LOADS



NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892358

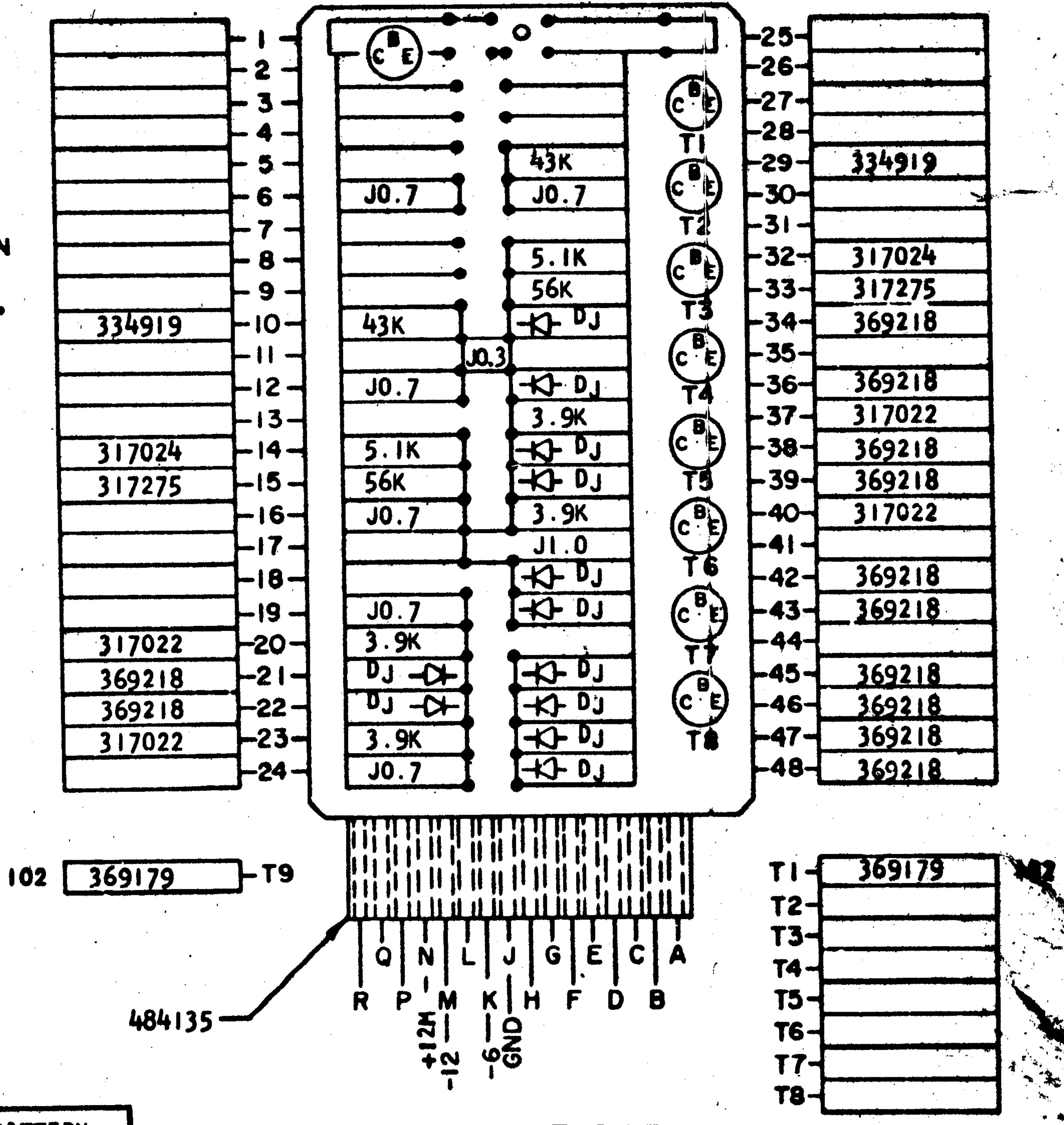
XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV

XV MOUNT TRANSISTOR PART NUMBER 369179 WITH TRANSISTOR SPACER 483070



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H.D.H.	12-1-60

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME CARD ASM TSTR-SDTDL-DOUBLE LEVEL LB #2A LOW SPEED, WO LOADS				12-5-60	110049	NOTE XIV				X0522
DESIGN		TYPE	SMS 1401	5-15-61	111247	NOTE XV				
DETAIL	EDF 9-1-60	SCALE	NONE	6-4-62	113089	MDL				
CHECK	LHR 12-2-60	DRAW	VE 11-30-60							
APPRO	BFS 12-5-60	CHECK	RCH 12-2-60							

370358

32-3987 6-21-60

KK

370365
T A F -

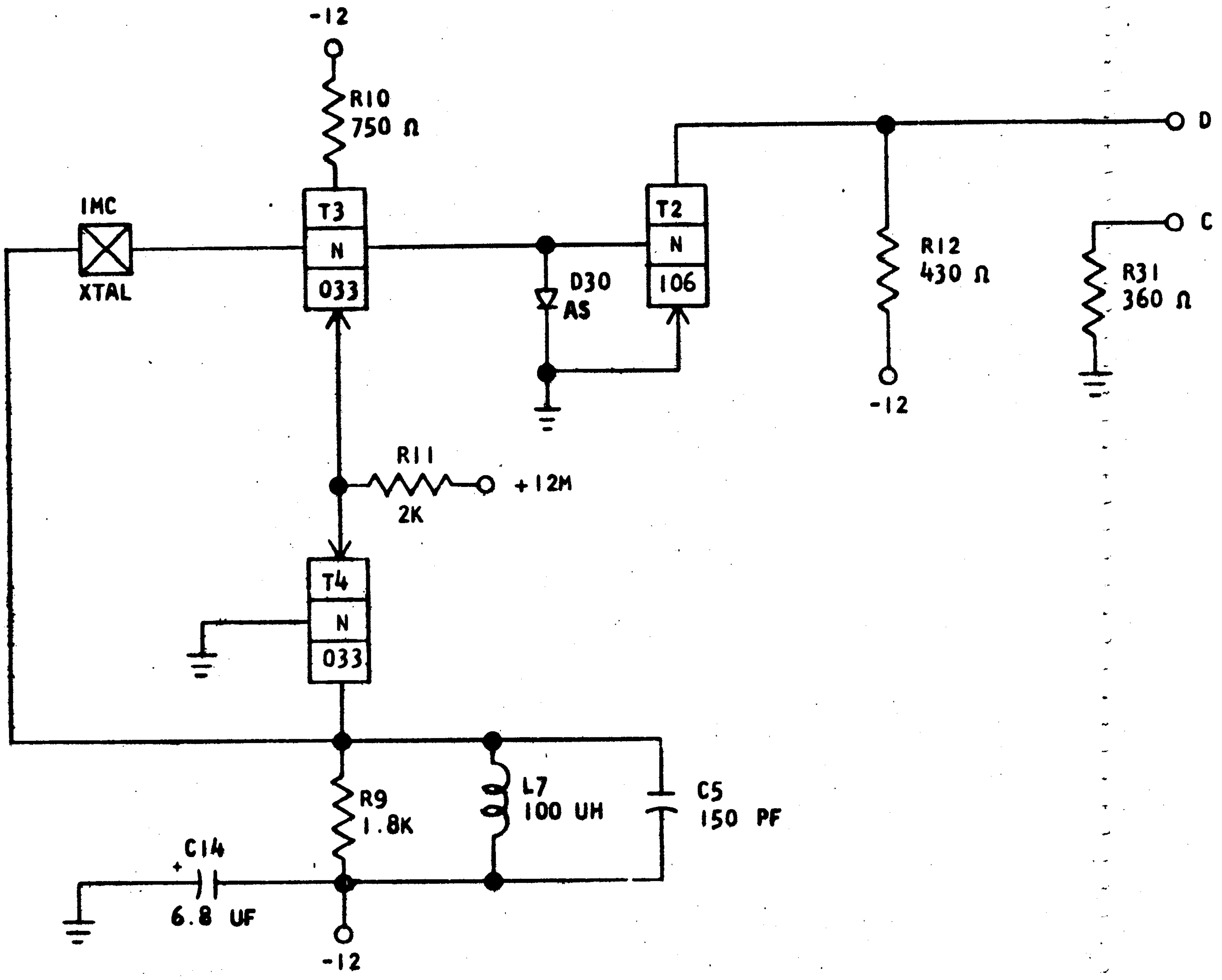
STANDARDS CODE
2-7045

370365

RESTRICTED
NOTE XIX

OSCILLATOR, ONE MC

NEW USAGE DISCOURAGED - RECOMMENDED PART NUMBER 370551



NOTES

I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 891868

II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296

**XIV APPLY SUFFICIENT AMOUNT OF EPOXY (100601) TO PROVIDE A MIN. .12 FILLET ALONG BOTH SIDES OF CRYSTAL WHEN PRESSED TO CARD. CURE EPOXY AT 170°F±5°F FOR MIN. 30 MINUTES, MAX. 60 MINUTES.

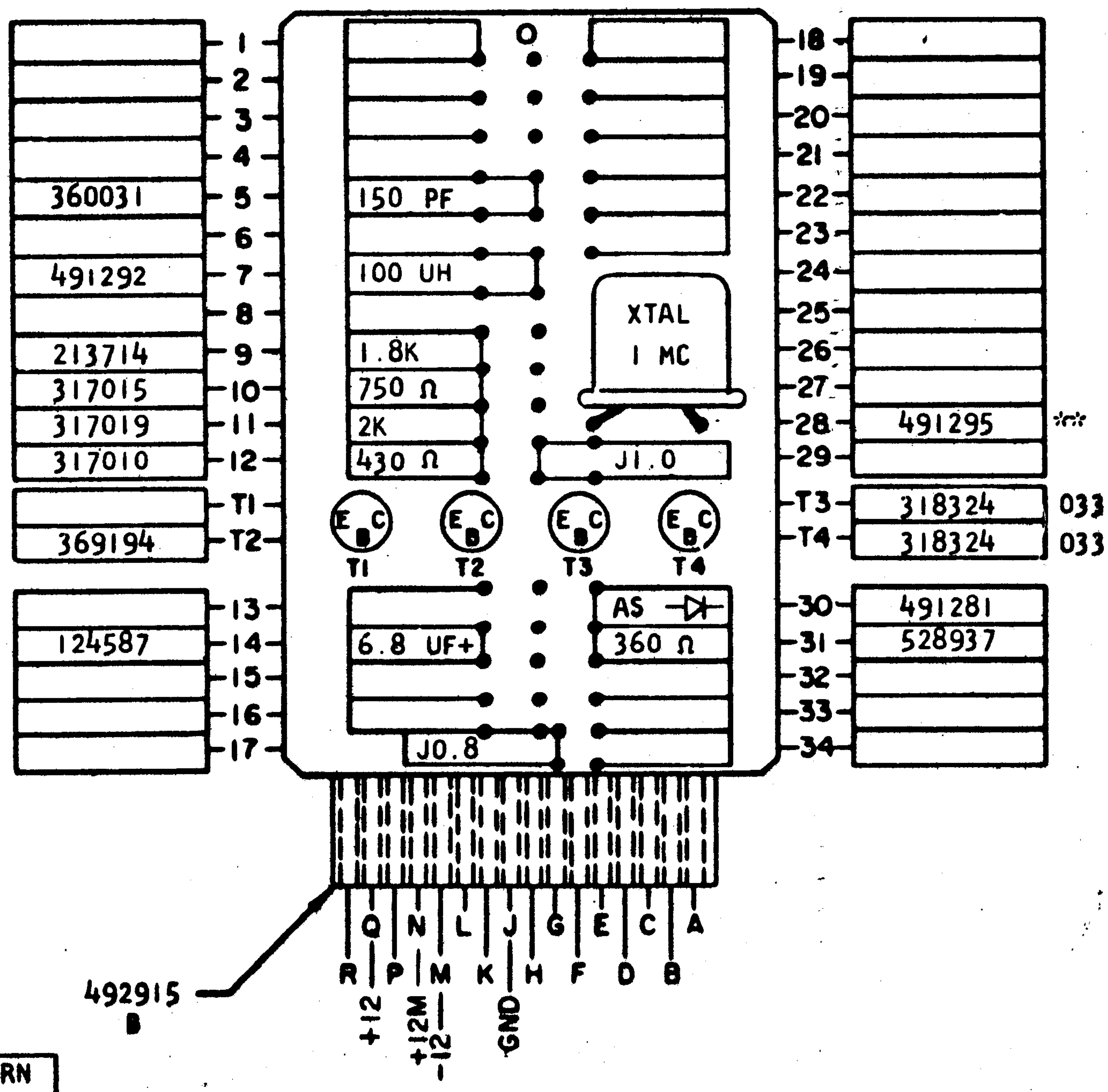
XV

XVI

XVII POSITION T2 IS A TO 18 TRANSISTOR WHICH MAY BE MO[illegible] IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING.

** XVIII PART NUMBER 491295 MUST NOT BE SUBJECTED TO SOLDER MILLING OPERATIONS

XIX RESTRICTED TO MACHINES 1414, 7907, 1006, 1620, AND 1720 USAGE ONLY.



B

COMPONENT SIDE

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT ABB	4-5-60

HOLE PATTERN
491329

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR- OSCILLATOR, 1 MC				
DESIGN	FCL	12-4-59	TYPE	SMS	
DETAIL	FCL	12-4-59	SCALE	NONE	
CHECK	RJA	12-7-59	DRAW	VE	5-27-60
APPRO	BE S	6-14-60	CHECK		6-1-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
6-15-60	108981	NOTE XVI	6-16-61	112147	NOTE XVI
12-9-60	110831	NOTE XVI	11-2-62	114724	MDL
1-31-61	110963	NOTE XVI	8-28-63	117802	MDL
3-3-61	111272	NOTE XVI			
4-13-61	D111553	NOTE XVI			

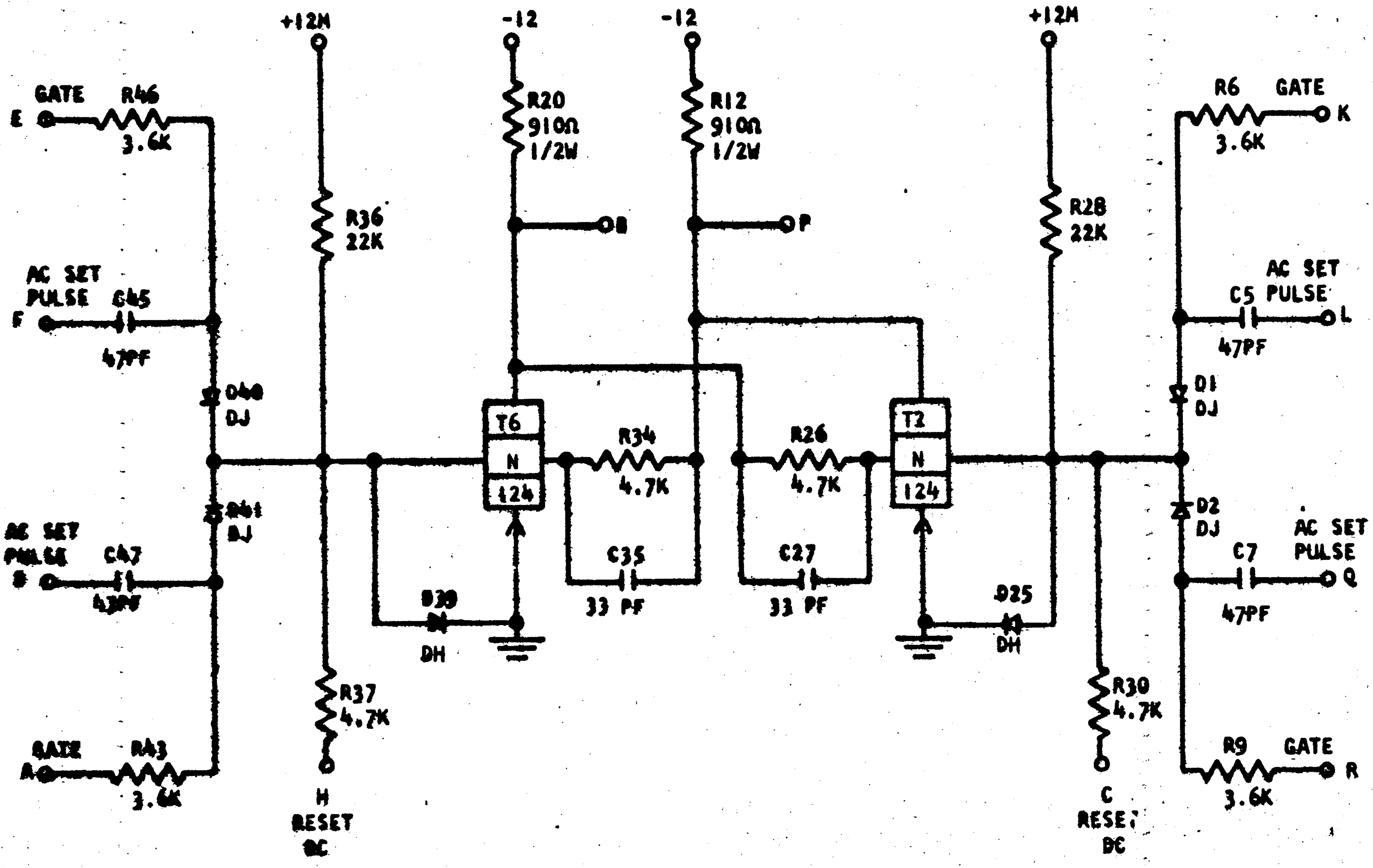
DEVELOPMENT NO.
CIRCUIT FAMILY
SDTRL

370365

370369

STANDARDS CODE	370369
2-7045	TAM-

DRIFT-BINARY TRIGGER



NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892369

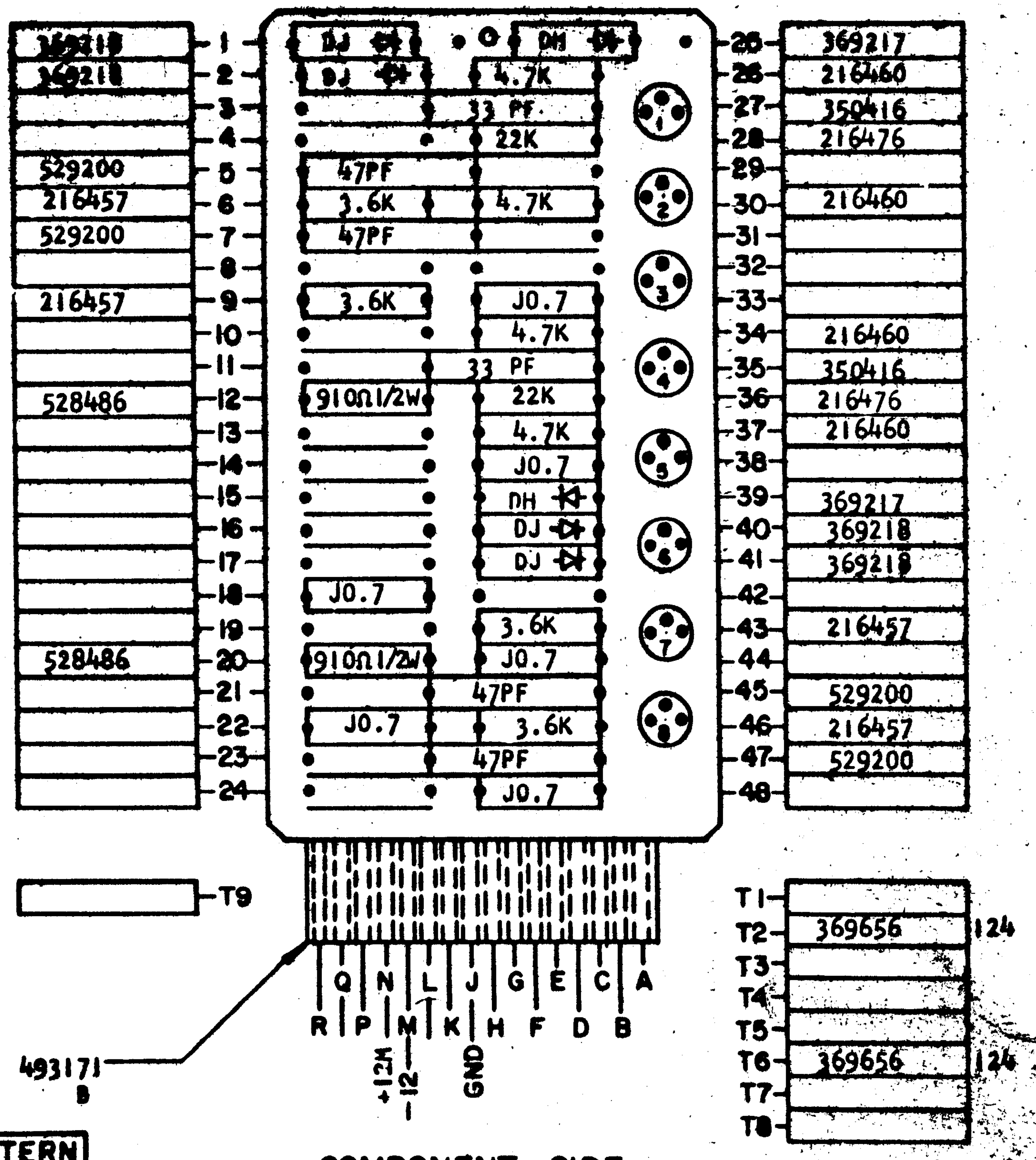
XI ASSEMBLE TO ENGINEERING SPECIFICATION 895336 AND 891999

XII ALL RESISTORS ARE 1/4 WATT AND ± 5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV POSITIONS T2, T6 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING

XV T2 AND T6 MUST BE TI TRANSISTORS



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
HDH (GS)	3-31-60

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR – DRIFT BINARY TRIGGER				
DESIGN	PRH	4-4-60	MODEL	SMS	
DETAIL	PRH	4-4-60	SCALE	NONE	
CHECK	PRH	4-14-60	DRAW	LIG	1-18-63
APPRO	BES	4-8-60	CHECK		

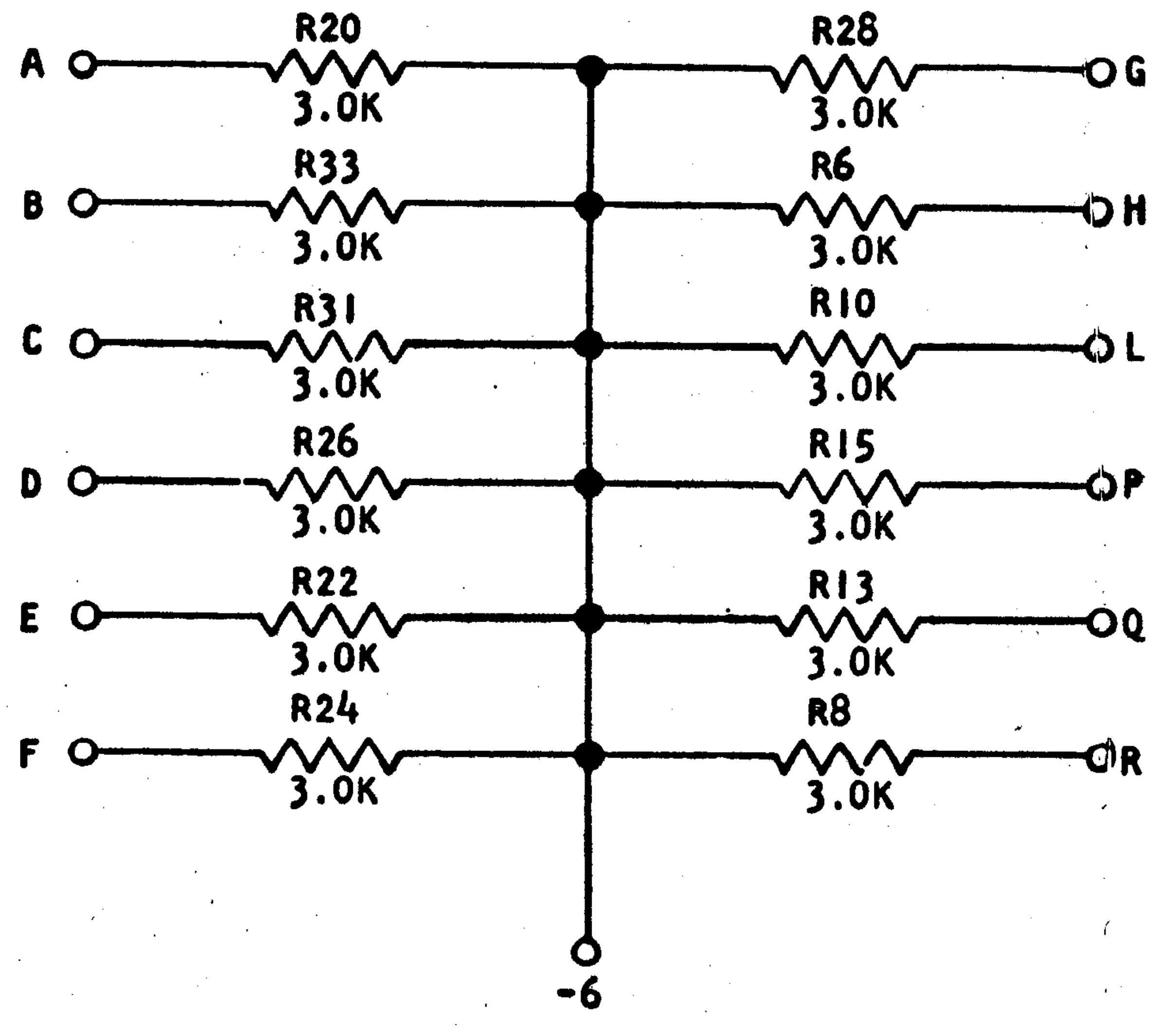
DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
SEE INDEX CARD			3-28-63	116096	MDL	EX-1872
6-27-61	112156	NOTE XV	7-9-63	115981	MDL	
5-28-62	113949	MDL	8-26-63	115990	MDL	
1-17-63	114407	MDL				

370369

370371	DHD -
STANDARDS CODE	2-7045

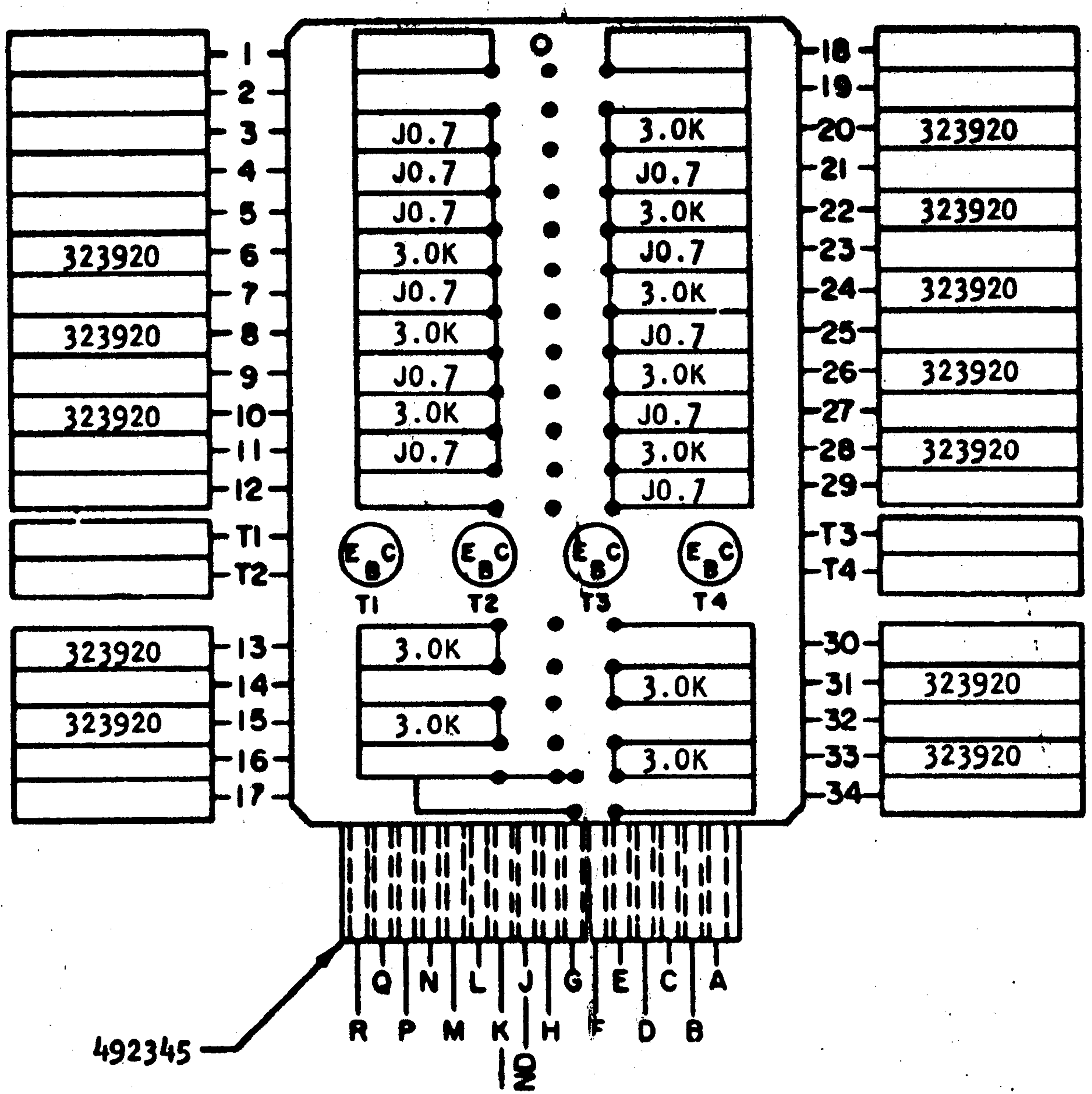
370371

SDTDL AND SDTRL 3K RESISTOR LOAD



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892380
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895398 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H. D Hesford	11-23-60

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR-SDTDL AND SDTRL 3K RESISTOR CARD				
DESIGN			TYPE	SMS	
DETAIL			SCALE	NONE	
CHECK	LLH		DRAW	MDE	11-29-60
APPRO	C.S	6	CHECK	JPM	11-30-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
12-2-60	110832	JWB				X0538A

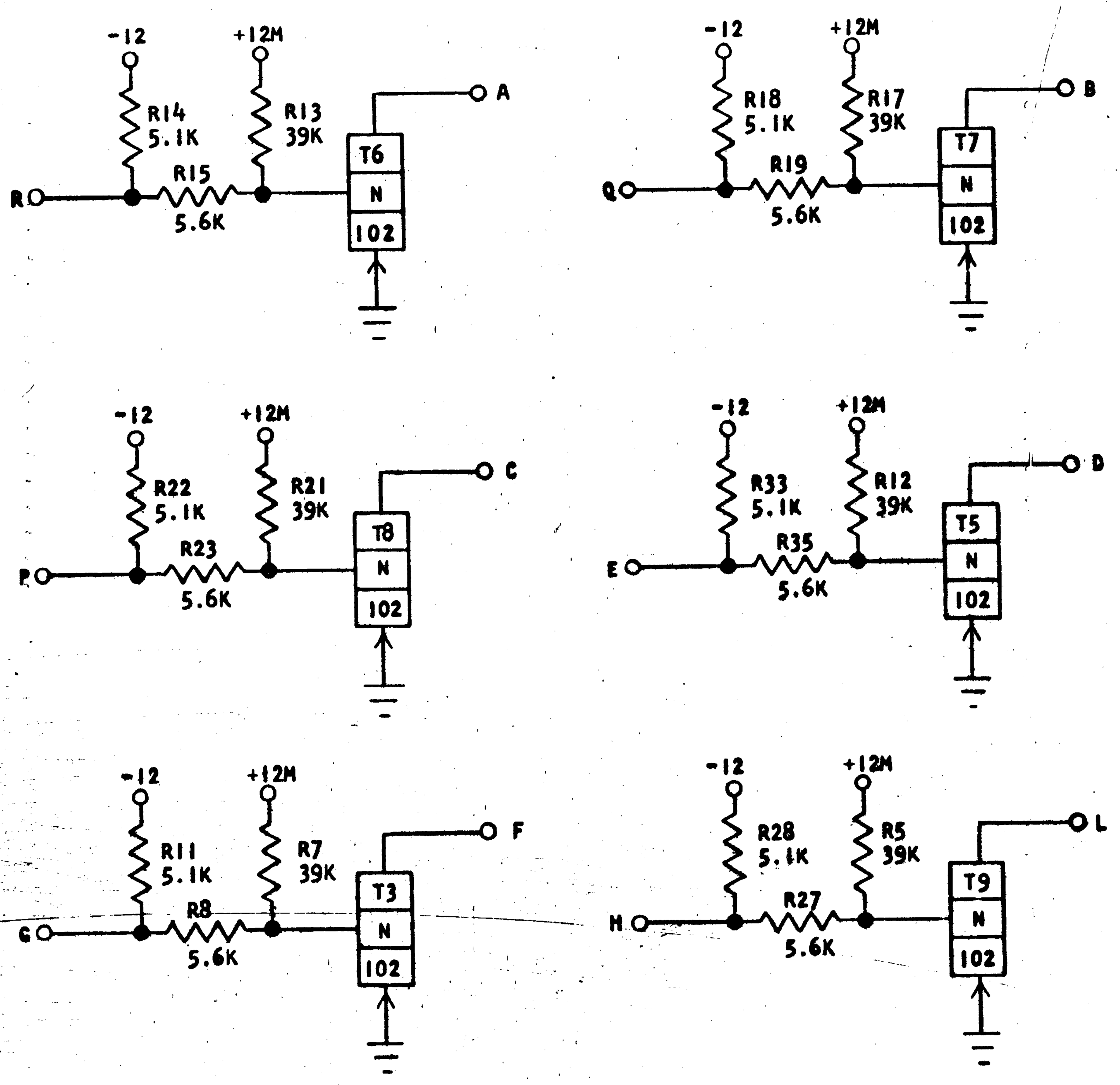
370371

82- 3977 8-24-60

370372	D H C -
STANDARDS CODE	2-7045

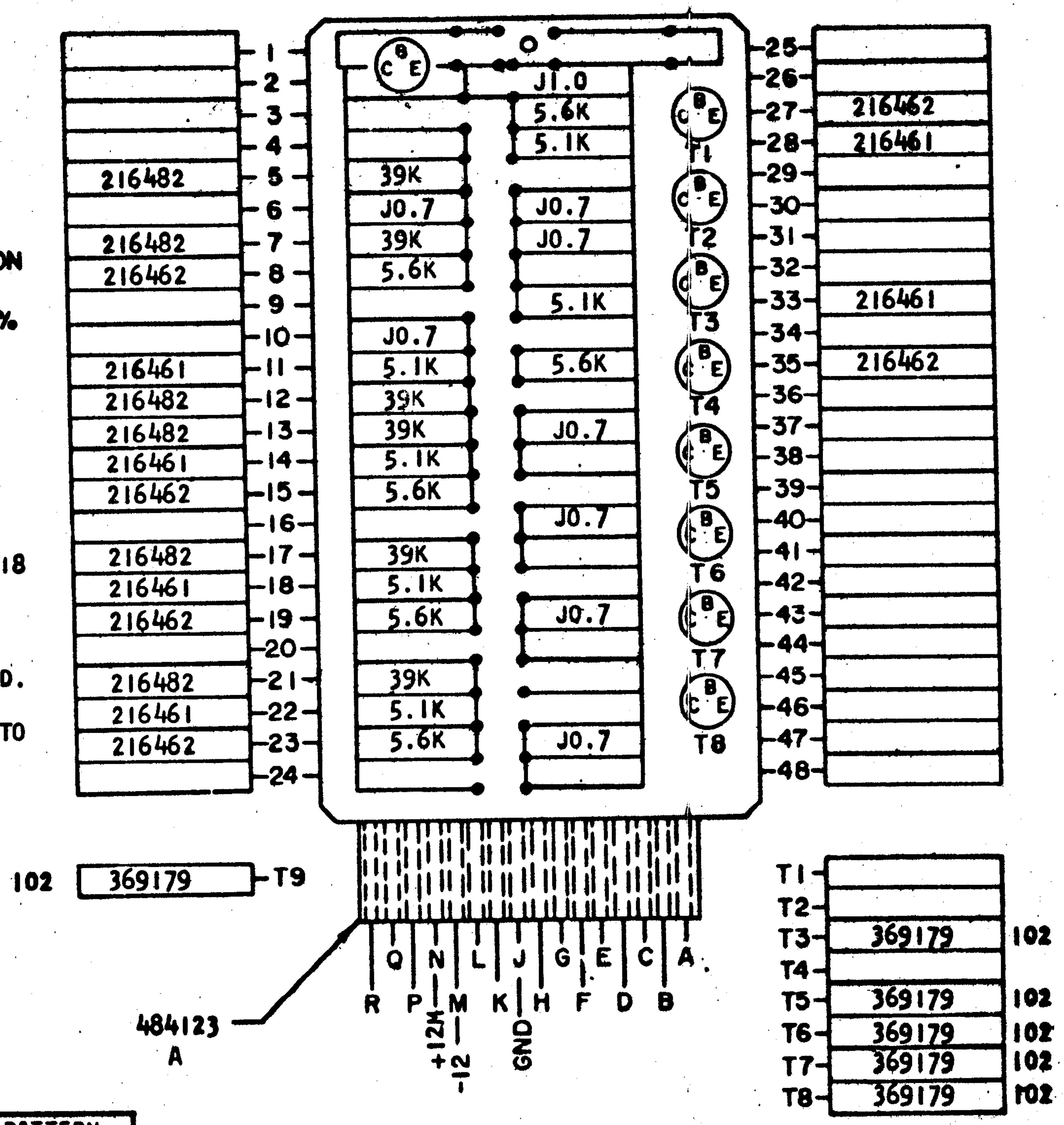
370372

SDTDL INVERTER LOW SPEED W/O LOAD



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892380
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/4 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV
- XV
- XVI POSITIONS T3,T5,T6,T7,T8,T9 ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. SEE REFERENCE DRAWING 493827, USE TRANSISTOR SPACER 483070 AS REQUIRED.
- XVII REFER TO FIELD SERVICE DRAWING PART NUMBER 729922 WHEN MAKING A CHANGE TO THIS CIRCUIT



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H. D Hanford	11-23-60

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- SDTDL INVERTER LOW SPEED W/O LOAD		
DESIGN	JGJ	TYPE	SMS
DETAIL	RCH 9-29-60	SCALE	NONE
CHECK	LHR 12-1-60	DRAW	MDE 11-30-60
APPRO	BES 12-2-60	CHECK	APR 12-1-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
12-2-60	110844	NOTE XIV			
12-15-60	110869	NOTE XIV			
5-16-61	111246	NOTE XIV			
6-7-62	113941	MDL			

DEVELOPMENT NO: X0525

370372

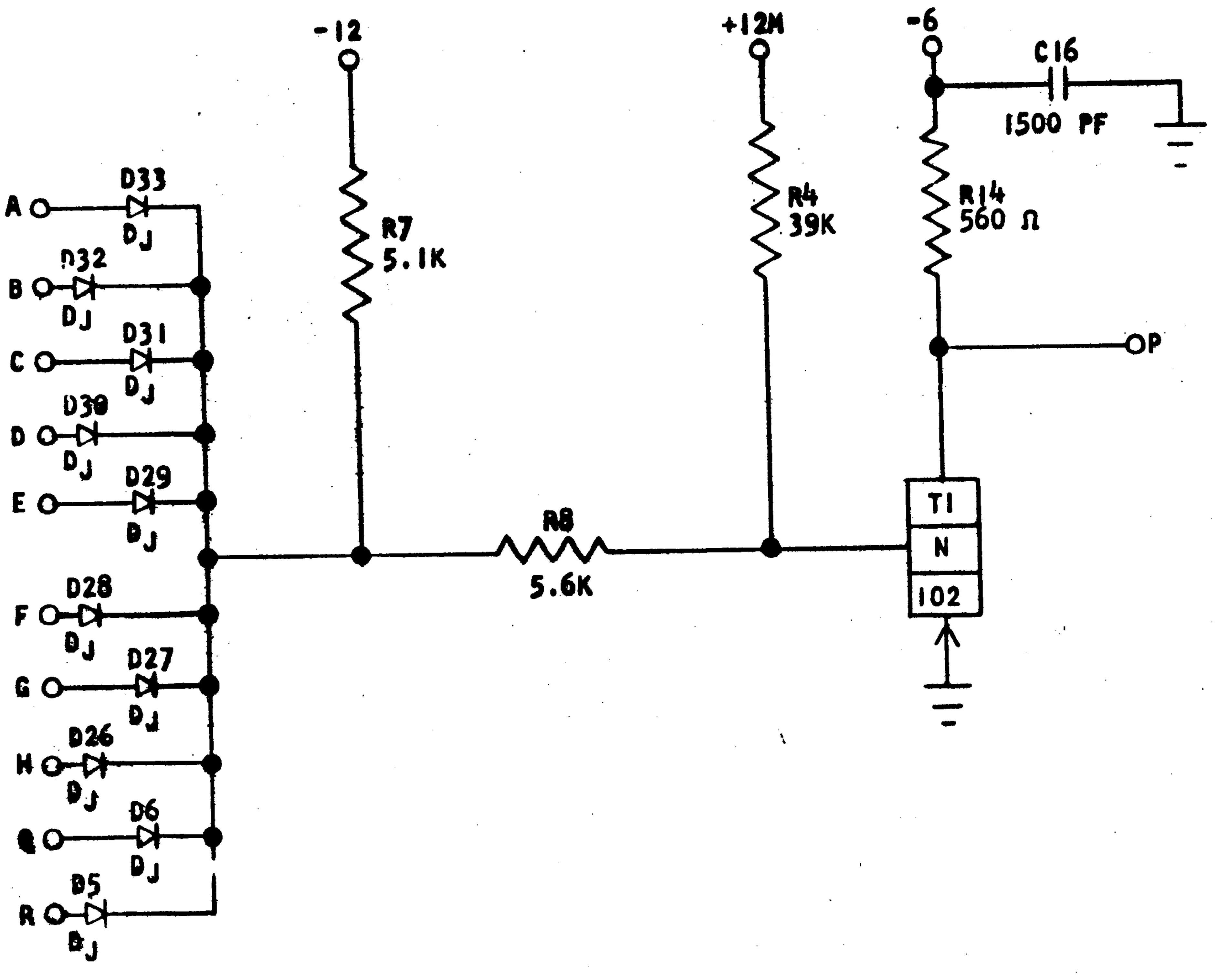
82-3987 8-24-60

370373 | D G Z -

STANDARDS CODE | 2-7045

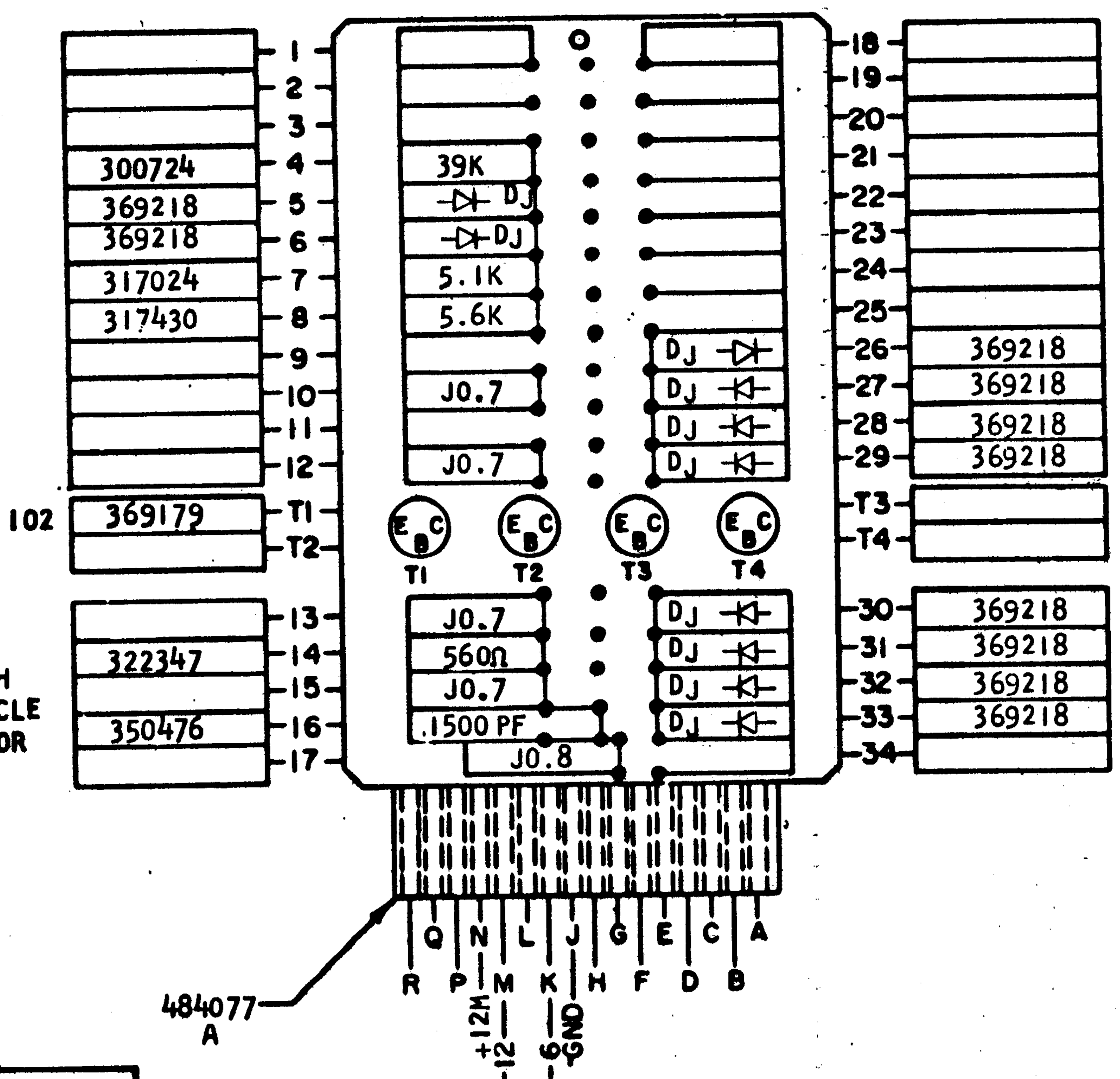
370373

10 WAY LOGIC BLOCK LOW SPEED WITH LOAD



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892380
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- XIV
- XV
- XVI REFER TO FIELD SERVICE DRAWING PART NUMBER 725 :N MAKING A CHANGE TO THIS CIRCUIT
- XVII POSITION T1 IS A TO-18 TRANSISTOR WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING.



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H. D Hanford	11-23-60

HOLE PATTERN
491329

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- 10-WAY LOGIC BLOCK LOW SPEED WITH LOAD			
DESIGN			TYPE	SMS
DETAIL	AP	6-10-60	SCALE	NONE
CHECK	LHR	12-1-60	DRAW	MDE 11-29-60
APPRO	BES	12-2-60	CHECK	SPR 12-1-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
12-2-60	110844	NOTE XIV				X0553
5-15-61	111244	NOTE XIV				
6-4-62	113089	MDL				CIRCUIT FAMILY
12-30-63	119217	GWS				SDTDL

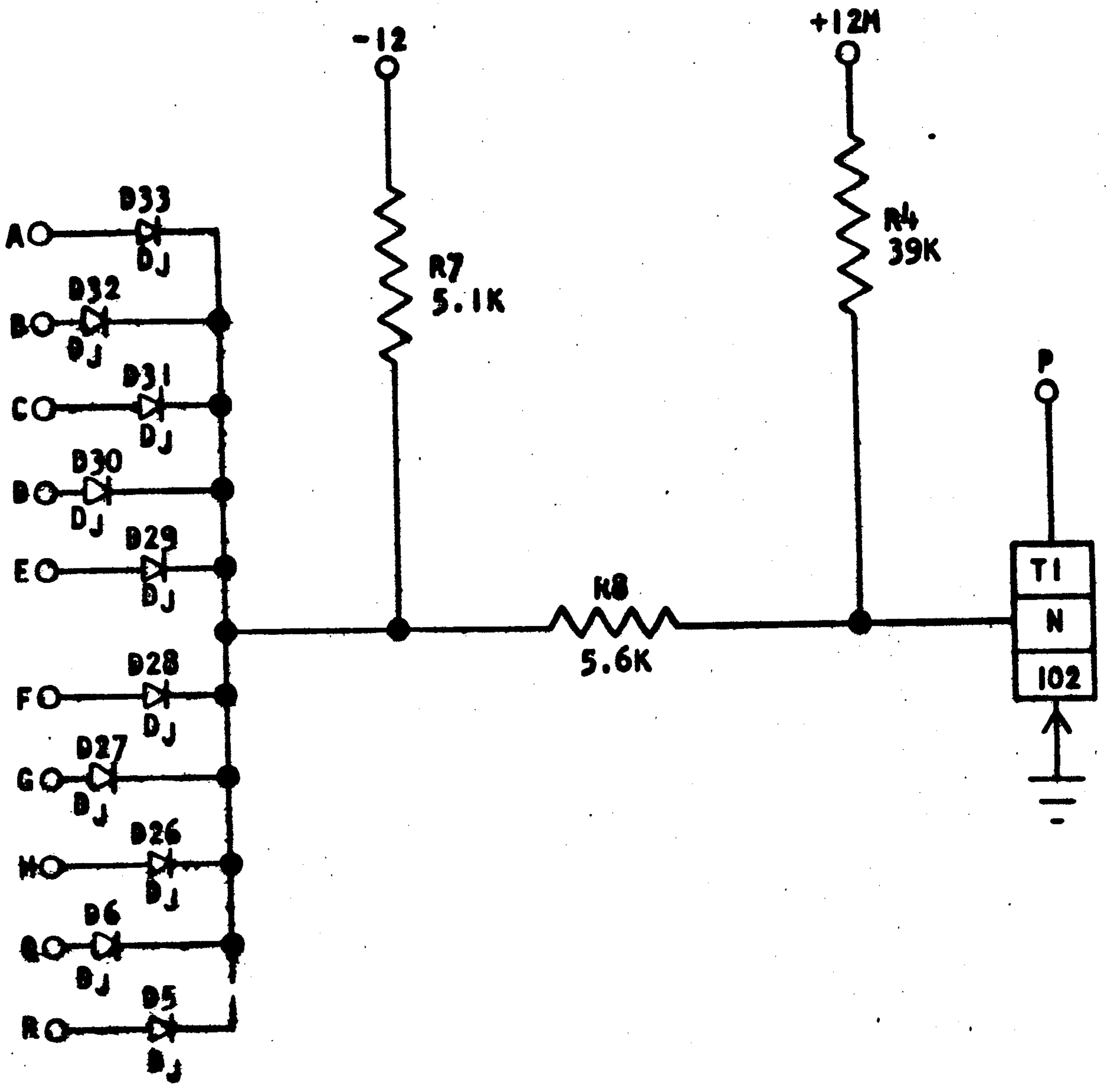
370373

82- 3977 8-24-60

370374	D H A -
STANDARDS CODE	2-7045

370374

10-WAY LOGIC BLOCK LOW SPEED WITHOUT LOADS



NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892380

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

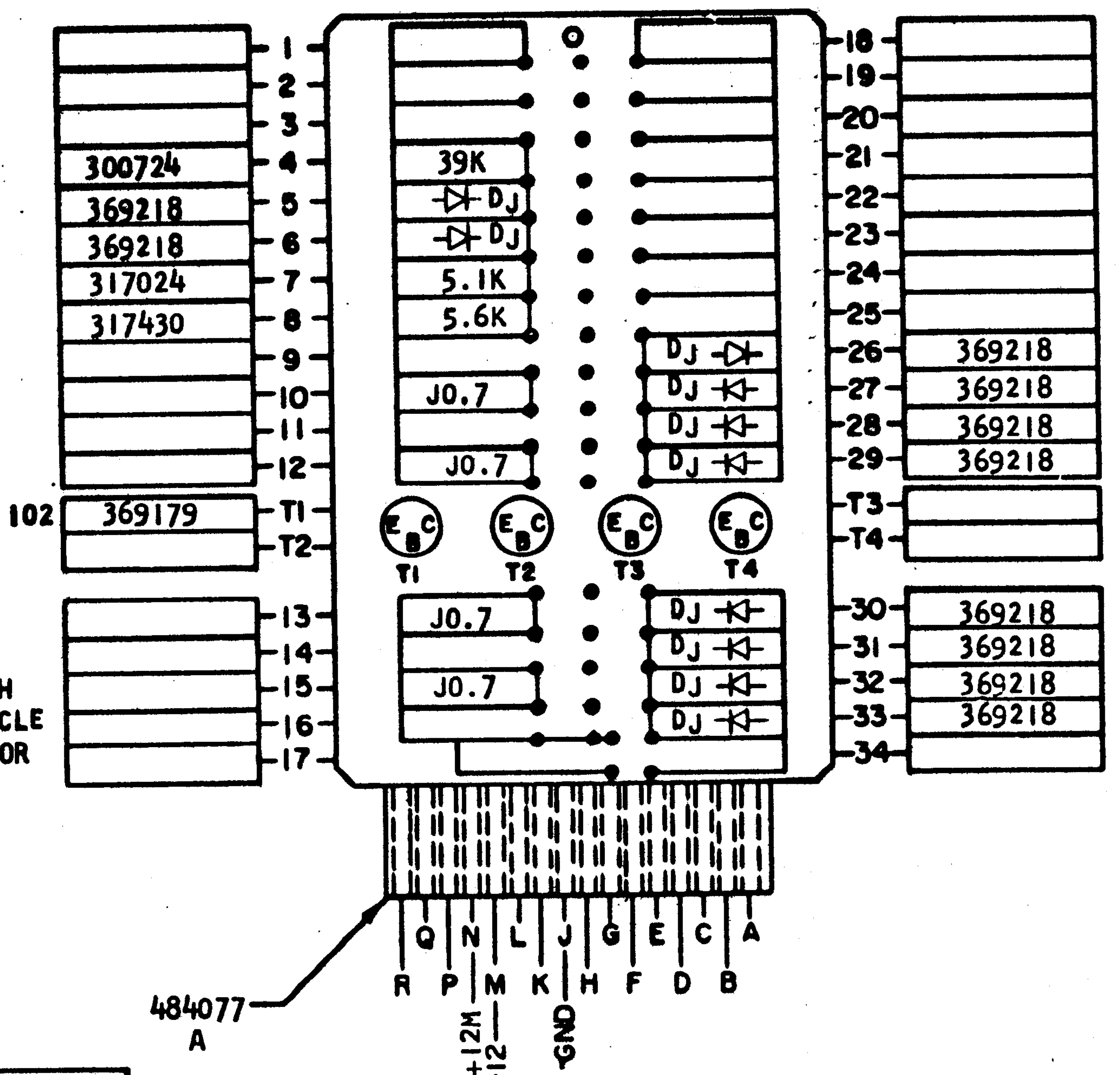
XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296

XIV

XV

XVI REFER TO FIELD SERVICE DRAWING PART NUMBER 72_ EN MAKING A CHANGE TO THIS CIRCUIT

XVII POSITION T1 IS A TO-18 TRANSISTOR WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H. D. Hanford	11-23-60

HOLE PATTERN
491329

INTERNATIONAL BUSINESS MACHINES CORP.				
NAME	CARD ASM TSTR-10 WAY			
LOGIC BLOCK LOW SPEED WO/LOADS				
DESIGN		TYPE	SMS	
DETAIL	AP 6-10-60	SCALE	NONE	
CHECK	LHR 12-1-60	DRAW	MDE	11-29-60
APPRO	BES 12-2-60	CHECK	SPR	12-1-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
12-2-60	110844	NOTE XIV				X0548
5-16-61	111246	NOTE XIV				
6-4-62	113089	MDL				CIRCUIT FAMILY
12-30-63	119217	GWS				SDTDL

370374

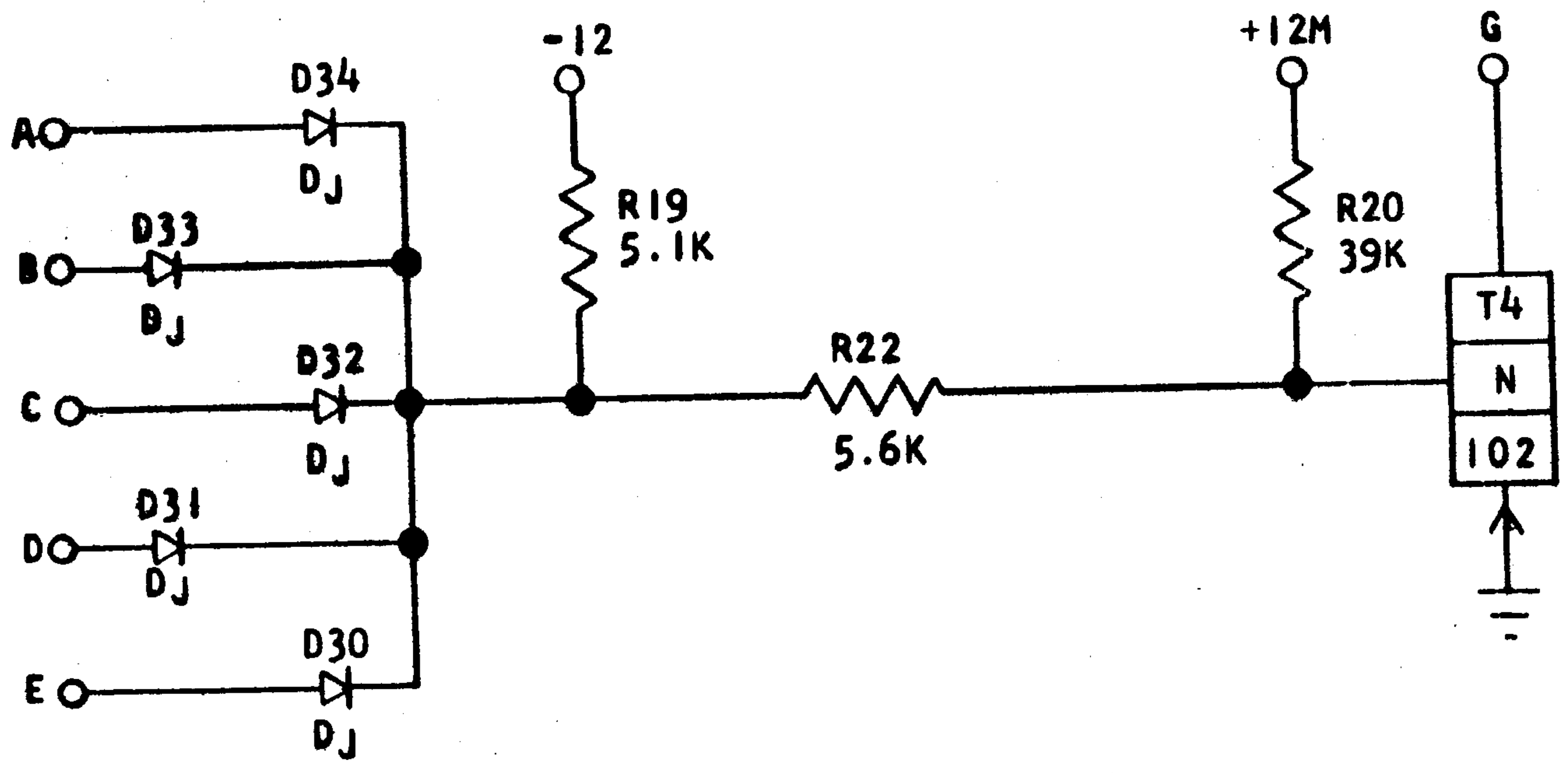
82- 3977 8-24-60

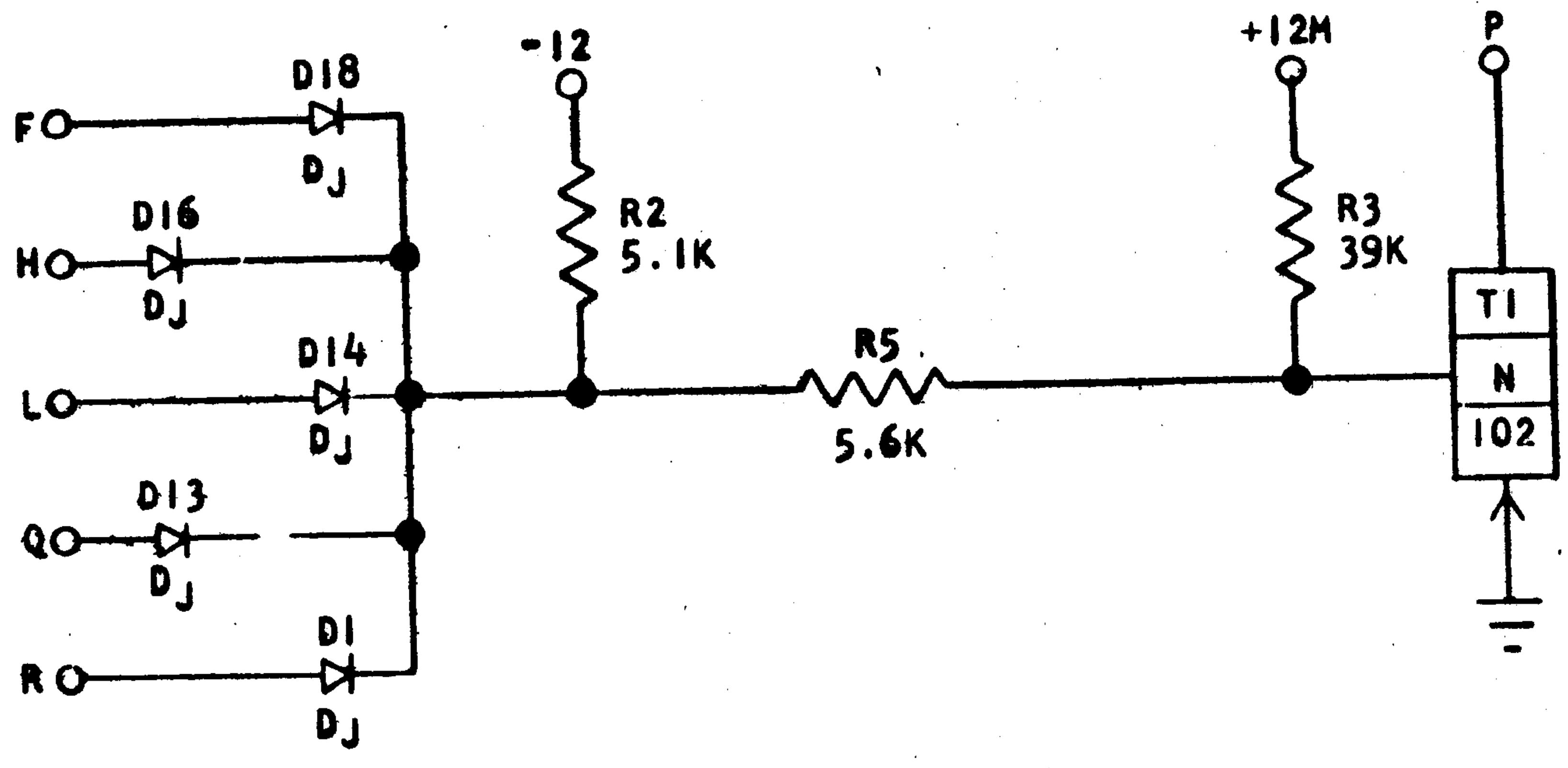
370375

370375 D G Y -

STANDARDS CODE 2-7045

SDTDL 5 WAY LOGIC BLOCK LOW SPEED WITHOUT LOAD

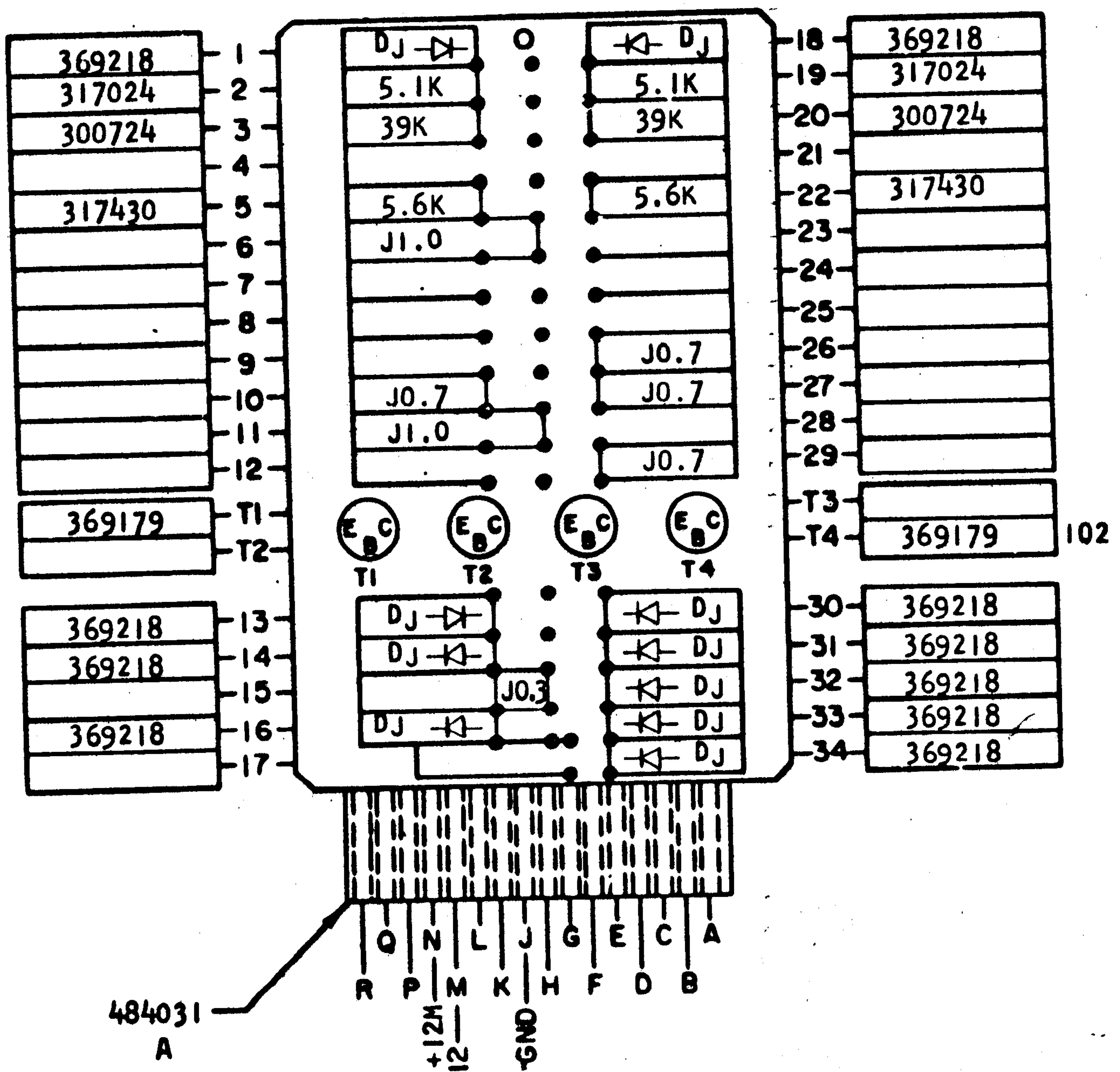




NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892380
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296

- XV POSITIONS T1 AND T4 ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING.
- XVI REFER TO [illegible] SERVICE DRAWING PART NUMBER 729916 WHEN MAKING A CHANGE TO THIS CIRCUIT.



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H. D. Hanford	11-23-60

HOLE PATTERN
491329

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR-SDTDL 5-WAY LOGIC BLOCK LOW SPEED WO/LOAD			
DESIGN			TYPE	SMS
DETAIL	CB	7-13-60	SCALE	NONE
CHECK	CB	7-13-60	DRAW	MDE 11-30-60
APPRO	BES	12-2-60	CHECK	JPR 12-1-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
12-2-60	110844	NOTE XIV			
5-15-61	111244	NOTE XIV			
6-4-62	113089	MDL			
7-30-63	117803	MDL			

DEVELOPMENT NO.
X0555

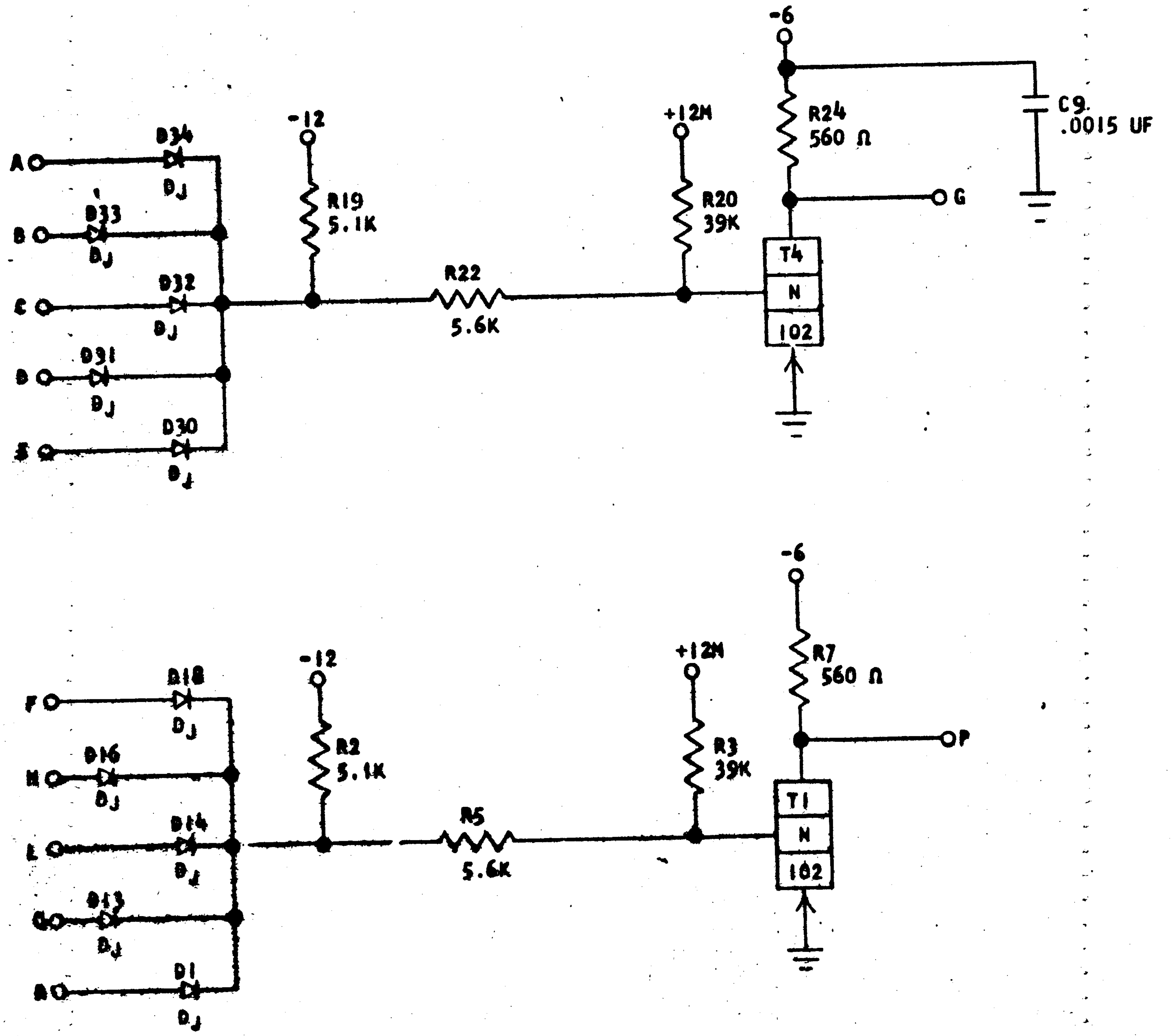
370375

82- 3977 8-24-60

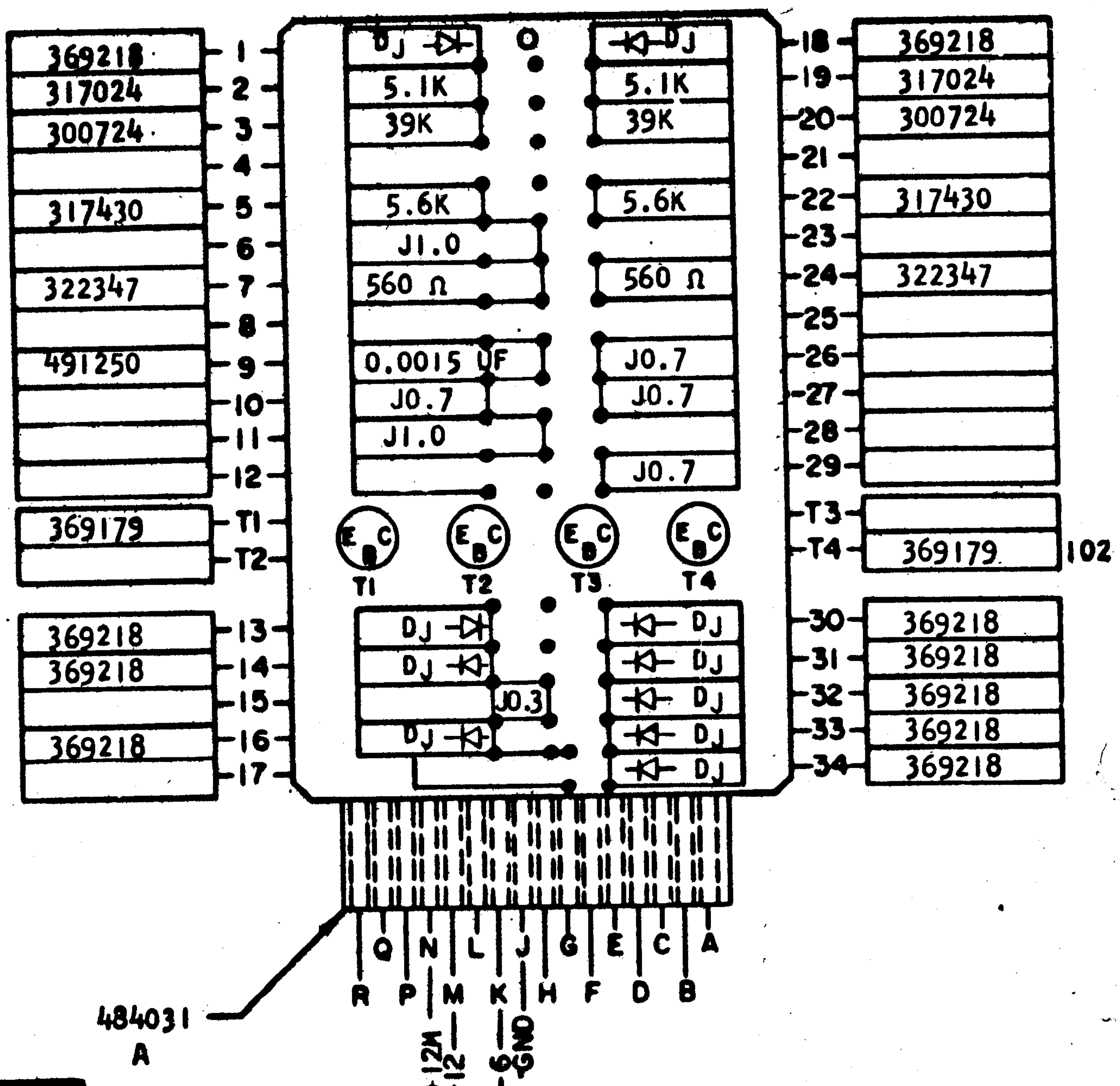
370376	D G X - R
STANDARDS CODE	2-7045

370376

SDTDL-5-WAY LOGIC BLOCK LOW SPEED WITH LOADS



NOTES
- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892380
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER. 491296
- XIV
- XV POSITIONS T1 AND T4 ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING.
- XVI REFER TO FIELD SERVICE DRAWING PART NUMBER 729917 WHEN MAKING A CHANGE TO THIS CIRCUIT.



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H G Harford GS	11-23-60

HOLE PATTERN
491329

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR-SDTDL 5-WAY LOGIC BLOCK LOW SPEED WITH LOADS			
DESIGN		TYPE	SMS	
DETAIL		SCALE	NONE	
CHECK	LRH 12-1-60	DRAW	MDE	11-29-60
APPRO	BES 12-2-60	CHECK	AFM	11-30-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
12-2-60	110832	NOTE XIV			
5-12-61	111245	NOTE XIV			
6-4-62	113089	MDL			
6-25-63	D117800	MDL			
7-3-63	117803	MDL			

DEVELOPMENT NO.
X0556

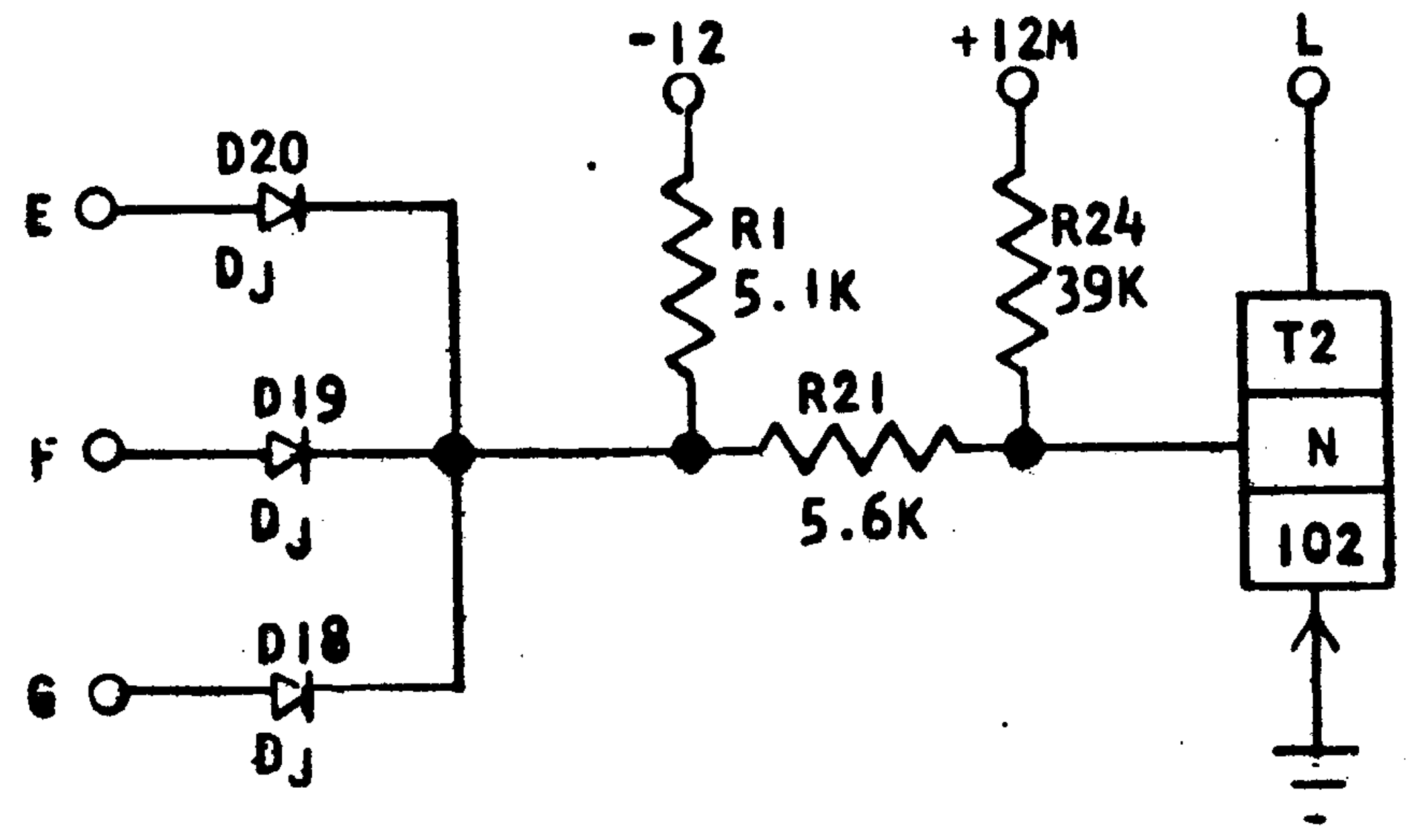
370376

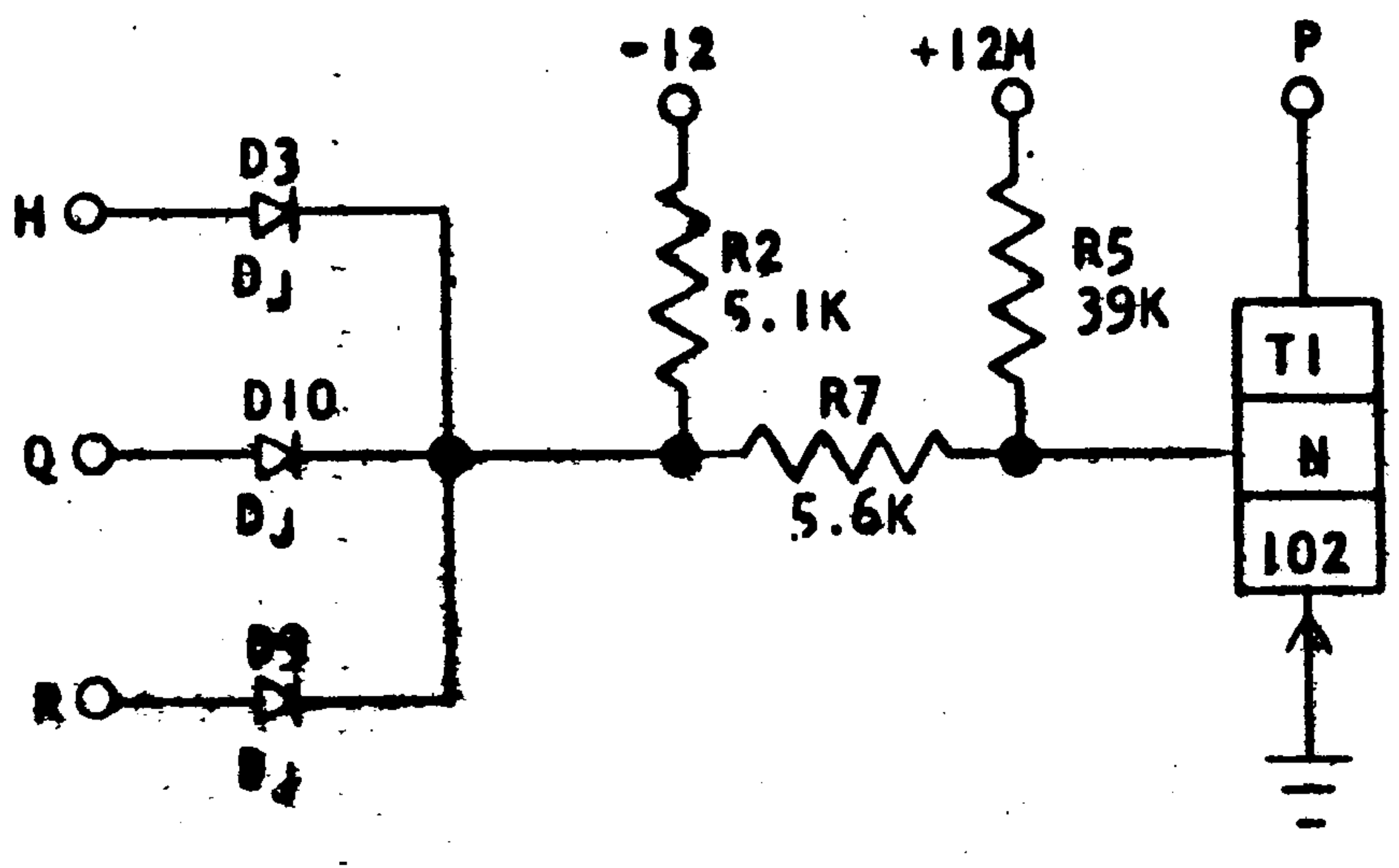
82- 3977 8-24-60

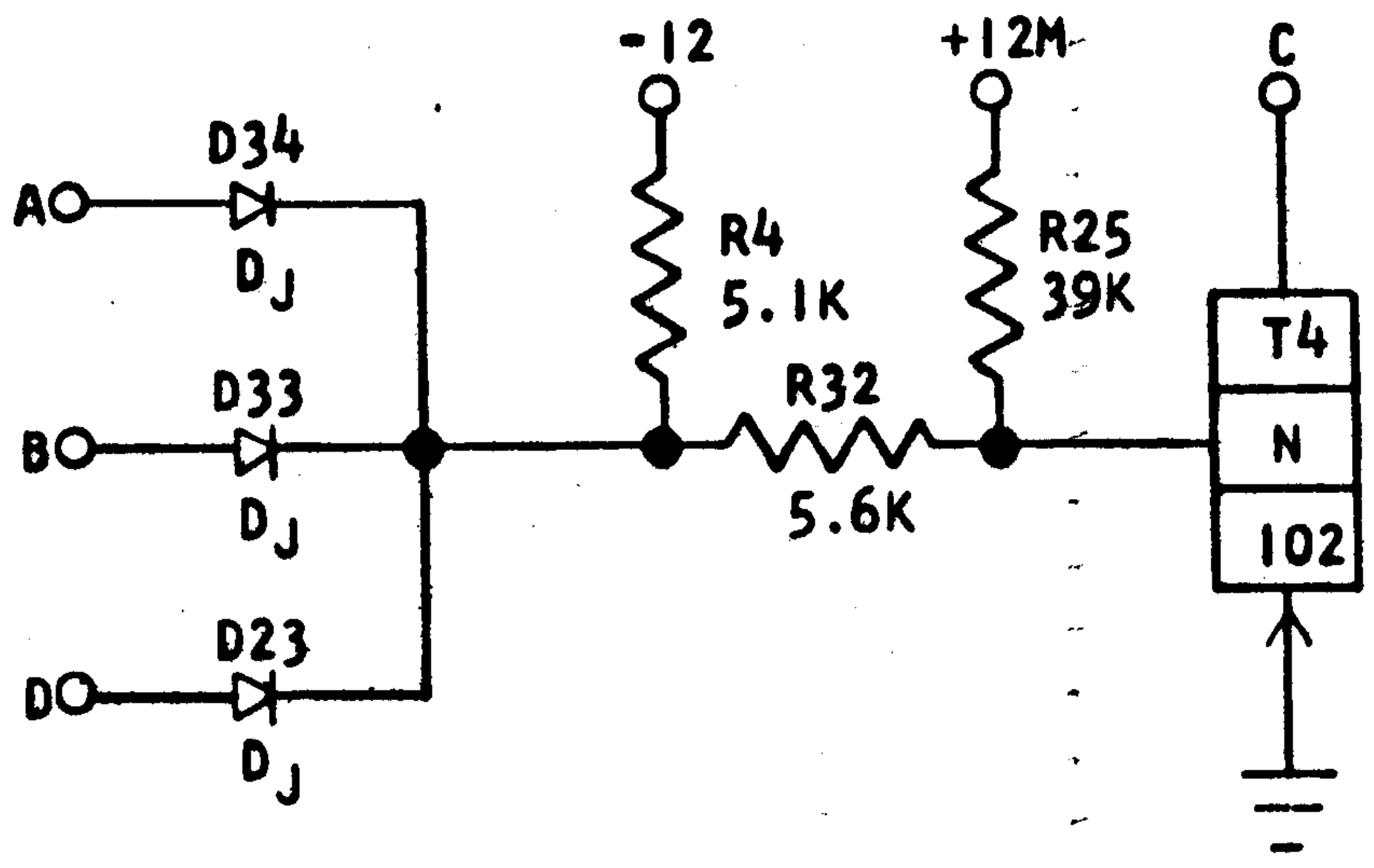
370377	D G W - R
STANDARDS CODE	2-7045

370377

SDTDL 3-WAY LOGIC BLOCK LOW SPEED WITHOUT LOADS







NOTES

I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892380

II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

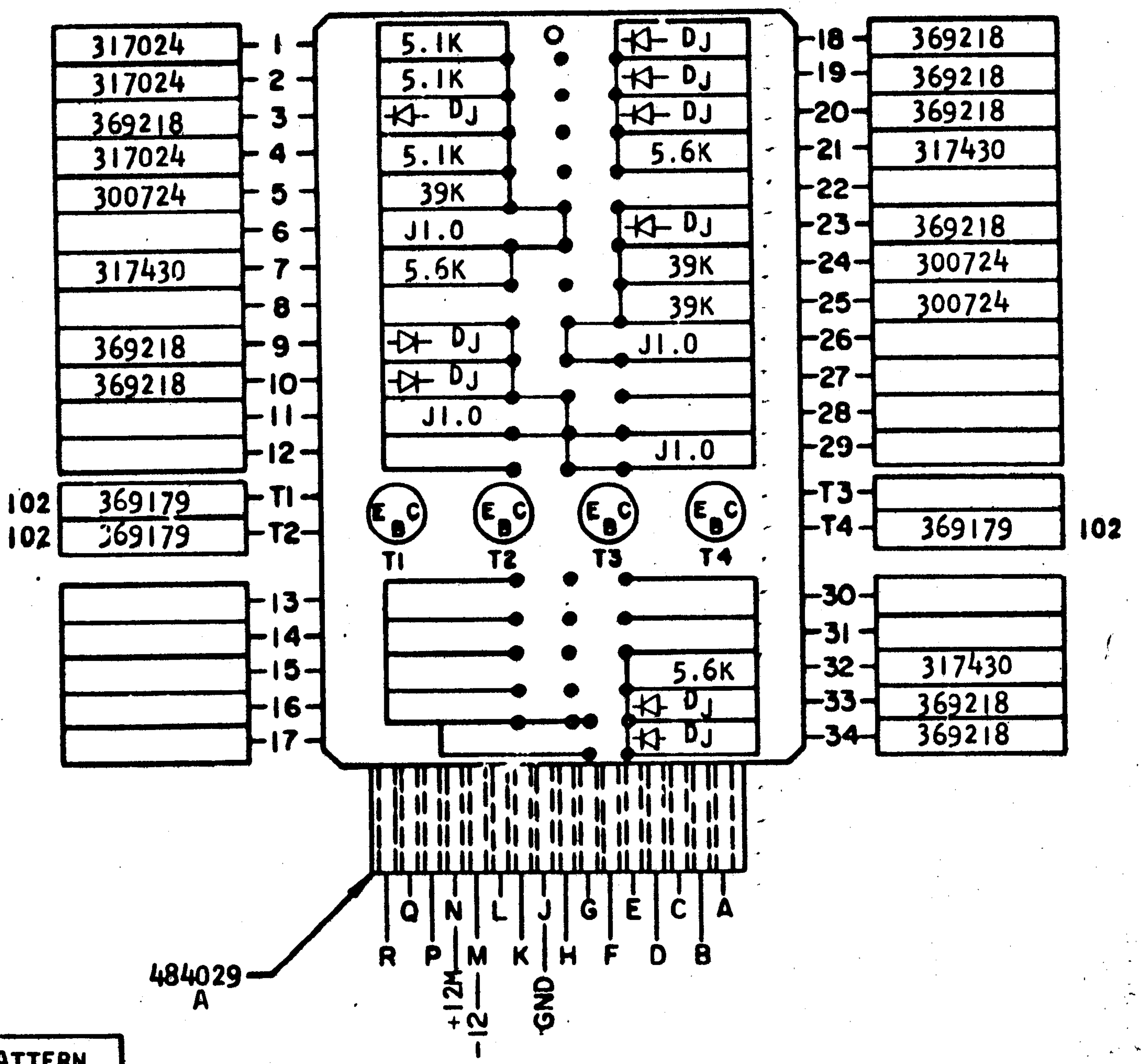
III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296

XIV

XV TSTRS T1,T2, AND T4 ARE TO-18 TSTRS WHICH MAY BE MOUNTED ON .100 OR .200 PIN CIRCLE HOLES. USE TSTR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING

XVI REFER TO FIELD SERVICE DRAWING PART NUMBER 729916 WHEN MAKING A CHANGE TO THIS CIRCUIT



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H D Harford	11-23-60

HOLE PATTERN
491329

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR-SDTDL 3-WAY				
LOGIC BCK LOW SPEED WITHOUT LOADS					
DESIGN			TYPE	SMS	
DETAIL			SCALE	NONE	
CHECK	LCH	12-1-60	DRAW	MDE	11-29-60
APPRO	CES	12-2-60	CHECK	JFM	11-30-60

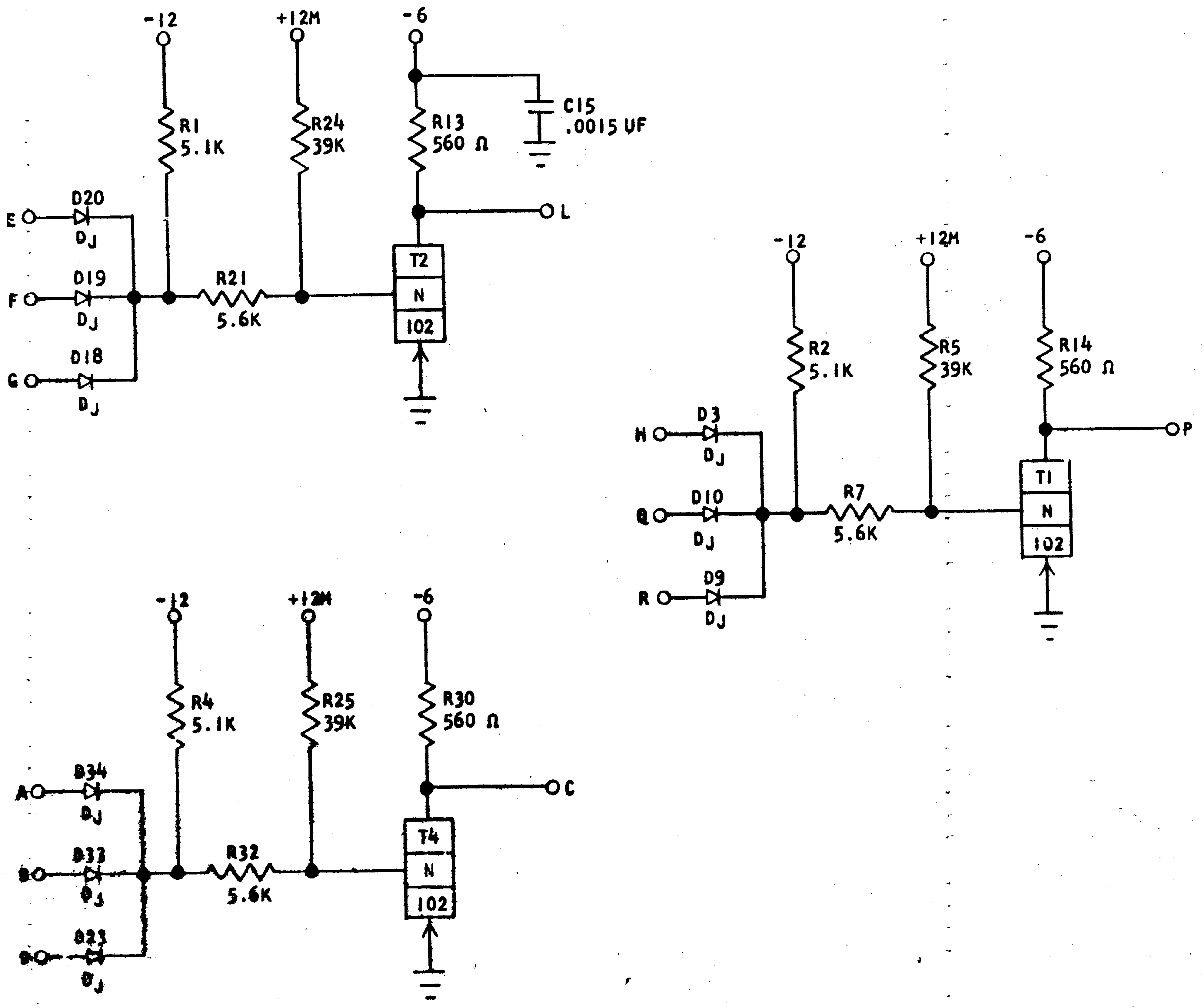
DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
12-2-60	110832	NOTE XIV				X0557
5-12-61	111245	NOTE XIV				
6-4-62	113089	MDL				
10-21-63	118933	GWS				

370377

370378
D G V -

STANDARDS CODE
2-7045

SDTDL - 3-WAY LOGIC BLOCK LOW SPEED WITH LOADS



NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892380

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

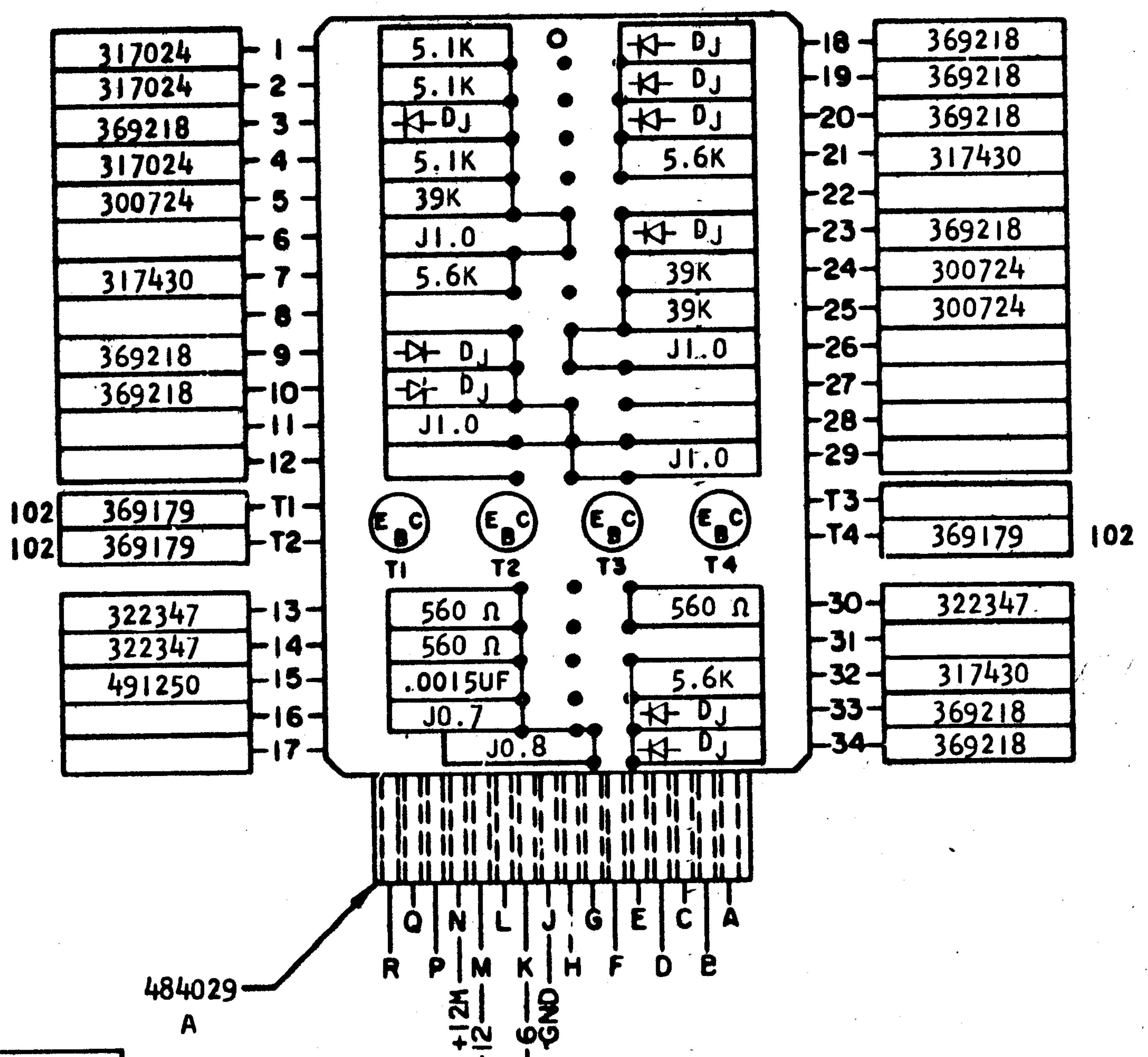
XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296

XIV

XV TSTRS T1, T2, AND T4 ARE TO-18 TSTRS WHICH MAY BE MOUNTED ON .100 OR .200 PIN CIRCLE HOLES. USE TSTR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING

XVI REF. IELD SERVICE DRAWING PART NUMBER 729915 WHEN MAKING A CHANGE TO THIS CIRCUIT



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H. D. Harford	11-23-60

HOLE PATTERN
491329

INTERNATIONAL BUSINESS MACHINES CORP.			
NAME	CARD ASM TSTR-SDTDL-3-WAY LOGIC BLOCK LOW SPEED WITH LOADS		
DESIGN		TYPE	SMS
DETAIL		SCALE	NONE
CHECK	LRH 12-1-60	DRAW	MDE 11-29-60
APPRO	BES 12-2-60	CHECK	11-30-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
12-2-60	110832	NOTE XIV				X0558
5-12-61	111245	NOTE XIV				
6-4-62	113089	MDL				
10-21-63	118933	GWS				

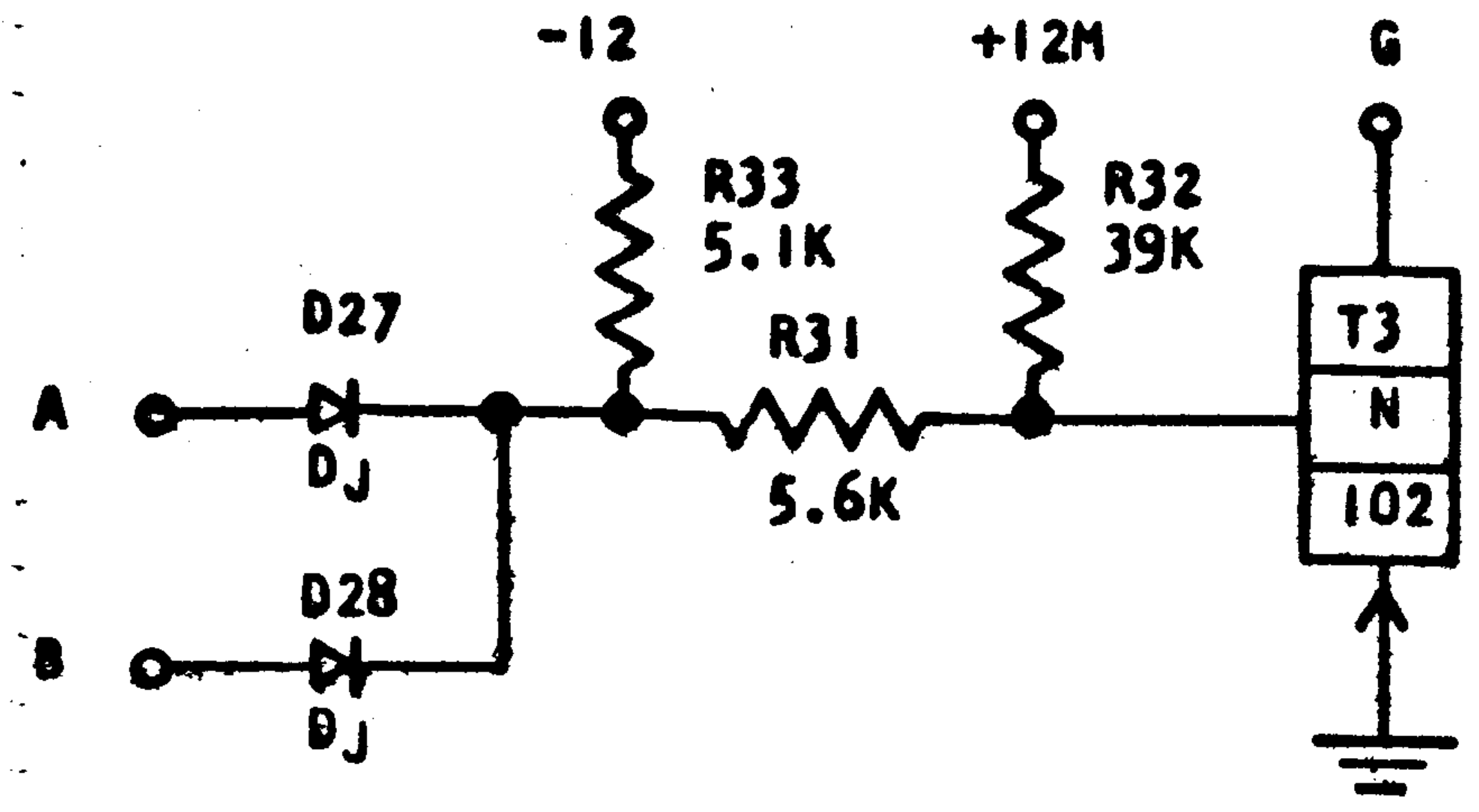
370378

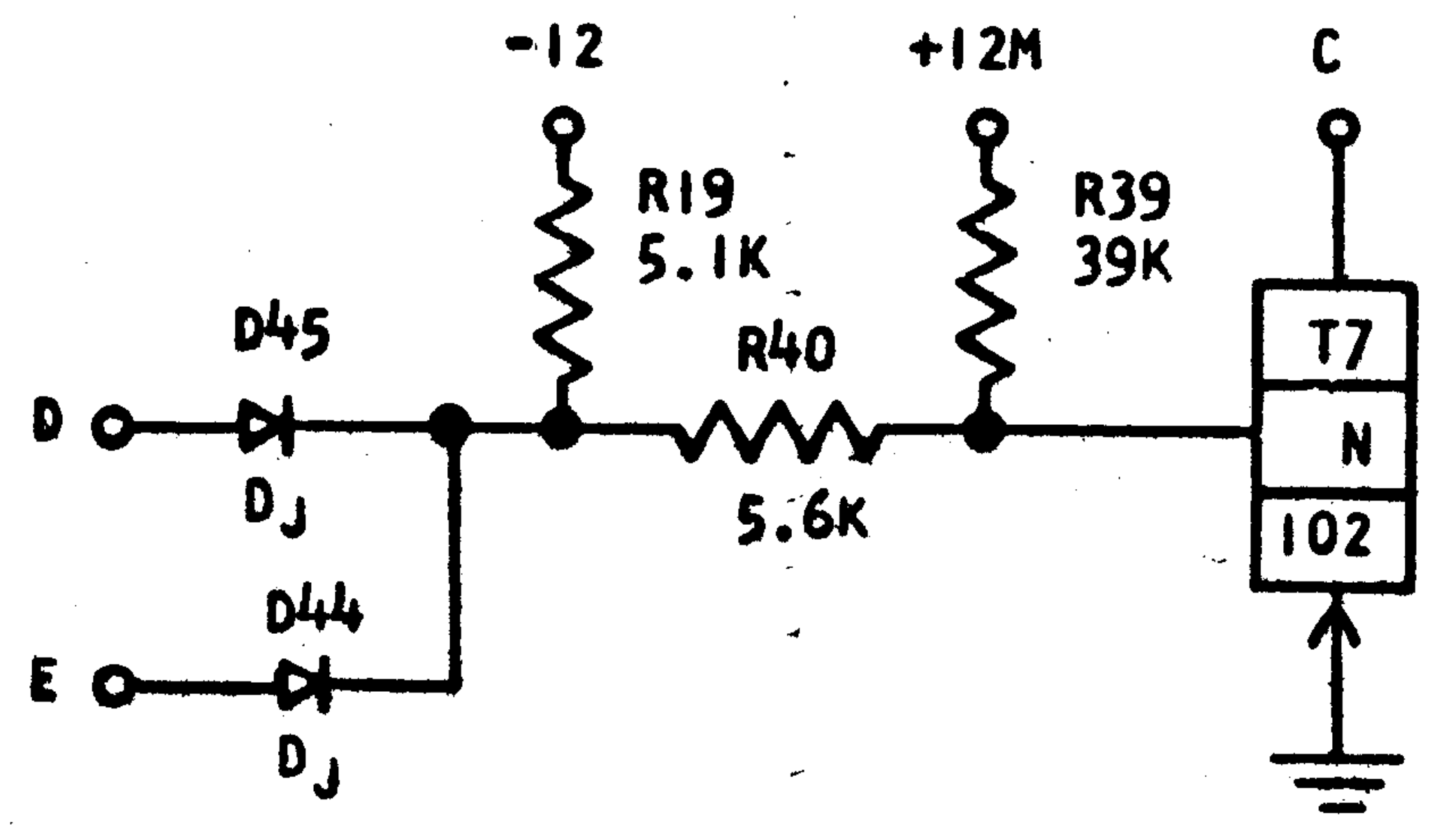
82- 3977 8-24-60

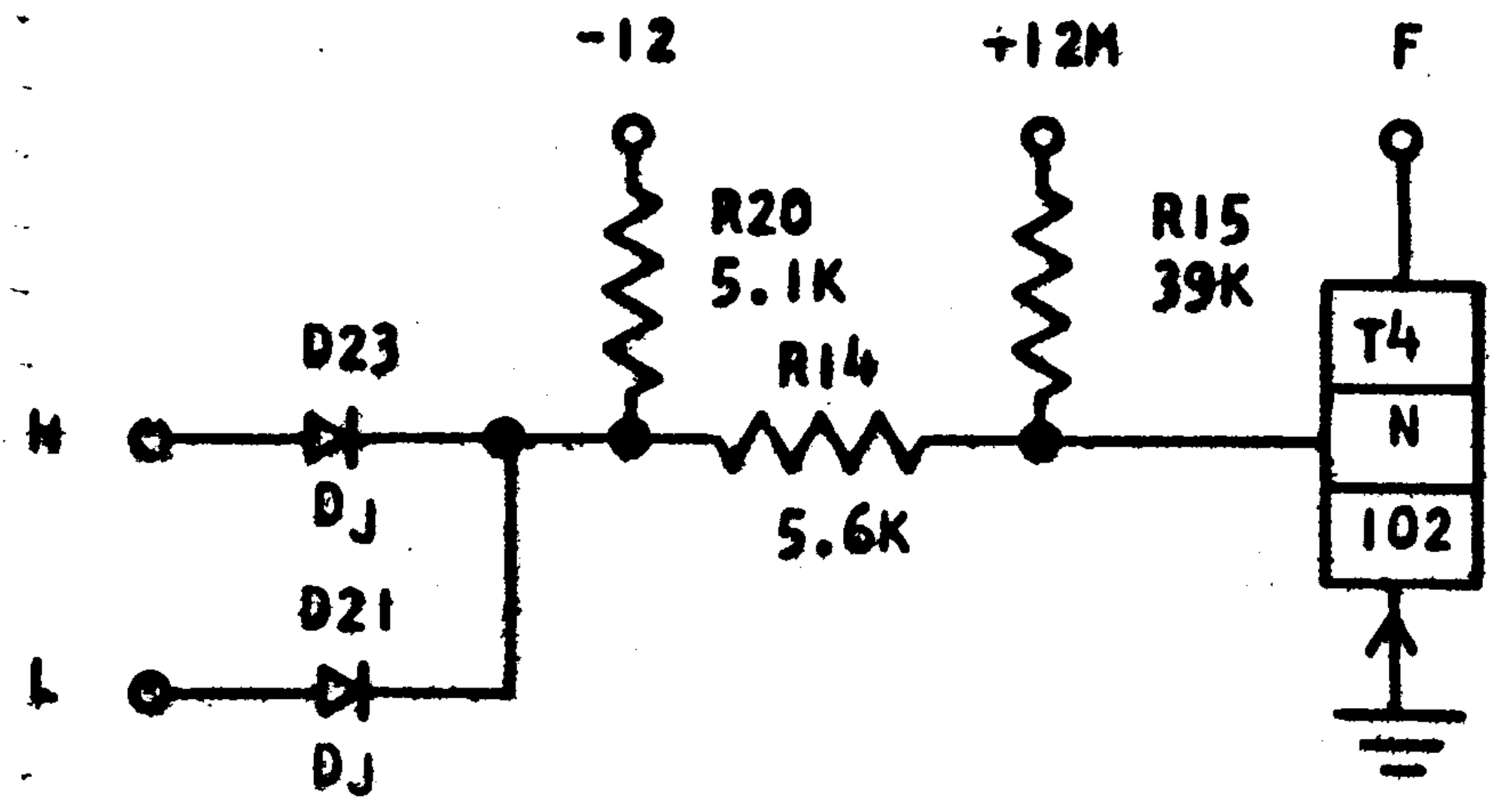
370379	D G U -
STANDARDS CODE	2-7045

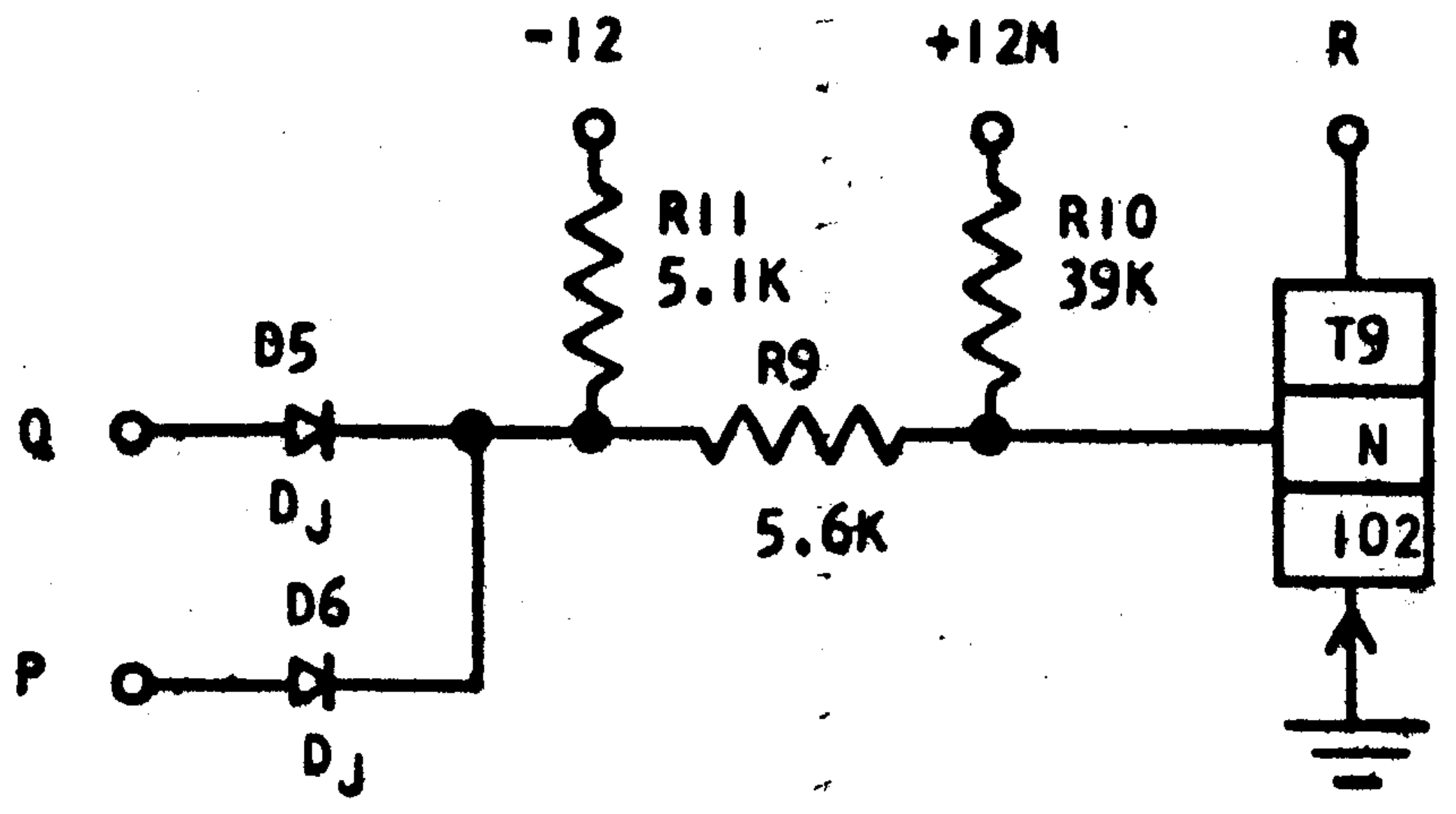
SDTDL 2-WAY LOGIC BLOCK LOW SPEED WITHOUT LOADS

370379





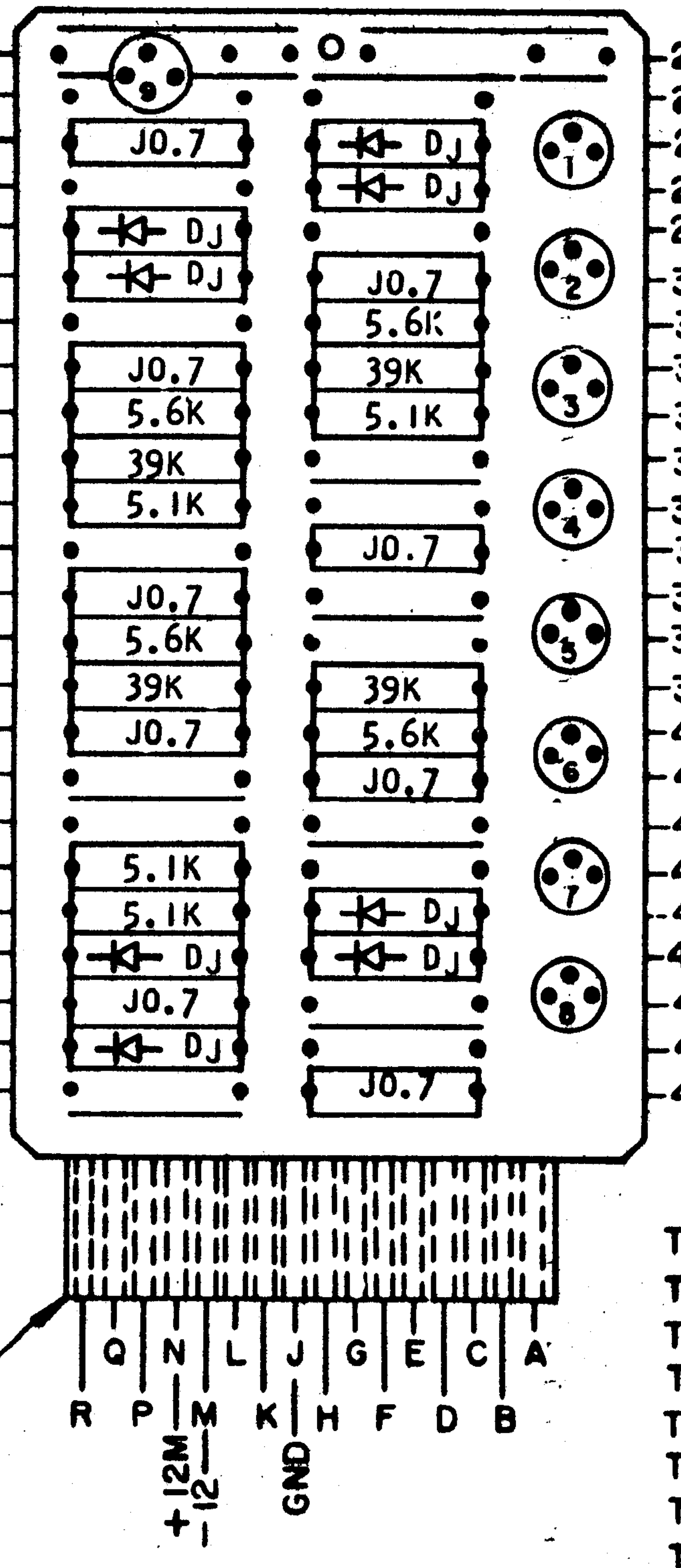




NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892380
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV
- XV TSTRS T3, T4, T7, AND T9 ARE TO-18 TSTRS WHICH MAY BE MOUNTED ON .100 OR .200 PIN CIRCLE HOLES. USE TSTR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING
- XVI REFER TO FIELD SERVICE DRAWING PART NUMBER 729914 WHEN MAKING A CHANGE TO THIS CIRCUIT

	1
	2
	3
	4
369218	5
369218	6
	7
	8
317430	9
300724	10
317024	11
	12
	13
317430	14
300724	15
	16
	17
	18
317024	19
317024	20
369218	21
	22
369218	23
	24



25	
26	
27	369218
28	369218
29	
30	
31	317430
32	300724
33	317024
34	
35	
36	
37	
38	
39	300724
40	317430
41	
42	
43	
44	369218
45	369218
46	
47	
48	

102 369179 T9

T1		
T2		
T3	369179	102
T4	369179	102
T5		
T6		
T7	369179	102
T8		

COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H.D.H. (GS)	11-23-60

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.				
NAME	CARD ASM TSTR-SDTDL 2-WAY LOGIC BCK LOW SPEED WITHOUT LOADS			
DESIGN			MODEL	SMS
DETAIL			SCALE	NONE
CHECK	LRH	12-1-60	DRAW	VE 6-13-62
APPRO	BES	12-2-60	CHECK	Ju 6-15-62

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
12-2-60	110832	NOTE XIV				X0559
5-16-61	111246	NOTE XIV				
6-21-62	REDRAWN					
6-4-62	113089	MDL				
10-21-63	118933	GWS				

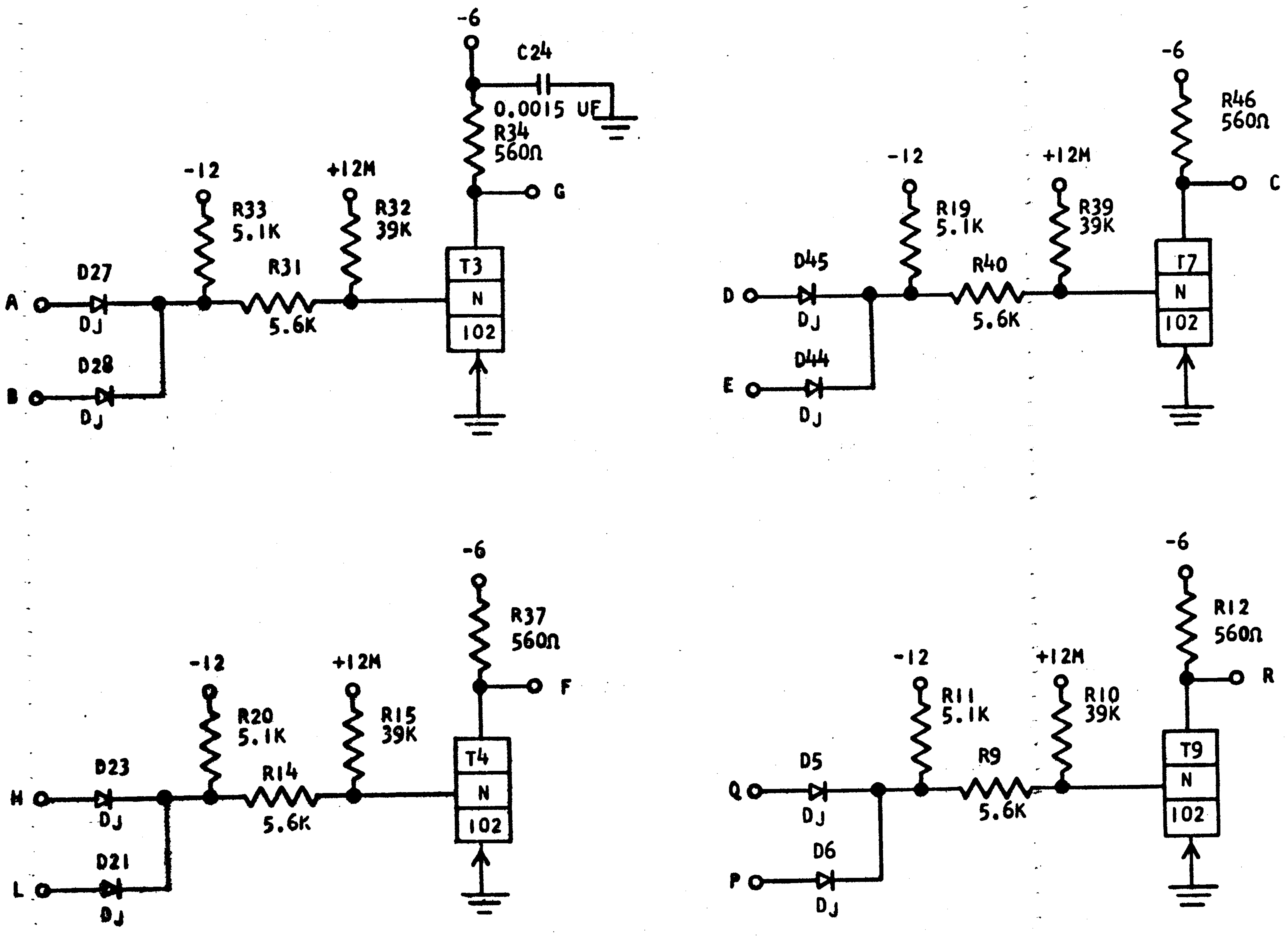
370379

82-3987-2 6-22-61

370380	DGT -
STANDARDS CODE	2-7045

370380

SDTDL-2 WAY LOGIC BLOCK LOW SPEED WITH LOADS



NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892380

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

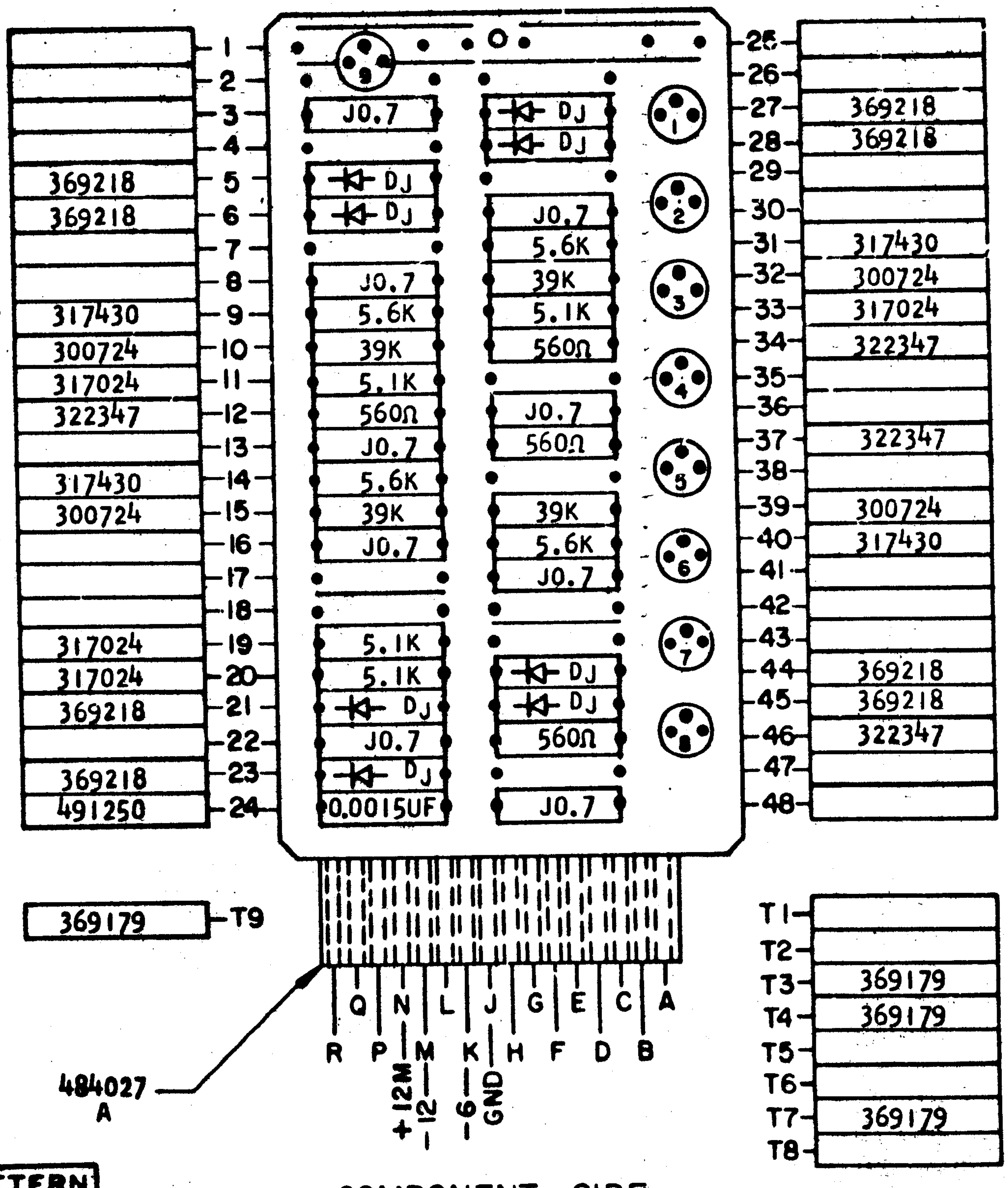
XII ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV

XV TSTRS T3,T4,T7, AND T9 ARE TO-18 TSTRS WHICH MAY BE MOUNTED ON .100 OR .200 PIN CIRCLE HOLES. USE TSTR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING

XVI REFER TO FIELD SERVICE DRAWING PART NUMBER 729913 WHEN MAKING A CHANGE TO THIS CIRCUIT



1	
2	
3	
4	
5	369218
6	369218
7	
8	
9	317430
10	300724
11	317024
12	322347
13	
14	317430
15	300724
16	
17	
18	
19	317024
20	317024
21	369218
22	
23	369218
24	491250

25	
26	
27	369218
28	369218
29	
30	
31	317430
32	300724
33	317024
34	322347
35	
36	
37	322347
38	
39	300724
40	317430
41	
42	
43	
44	369218
45	369218
46	322347
47	
48	

102 369179 T9

T1		
T2		
T3	369179	102
T4	369179	102
T5		
T6		
T7	369179	102
T8		

COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H.D.H. (GS)	11-23-60

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.				
NAME	CARD ASM TSTR-SDTDL-2-WAY LOGIC BLOCK LOW SPEED WITH LOADS			
DESIGN			MODEL	SMS
DETAIL			SCALE	NONE
CHECK	LRH	12-1-60	DRAW	VE 6-12-62
APPRO	BES	12-2-60	CHECK	6-15-62

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
12-2-60	110832	NOTE XIV				X0560
5-16-61	111246	NOTE XIV				
6-21-62	REDRAWN					
6-4-62	113089	MDL				
10-21-63	118933	GWS				

370380

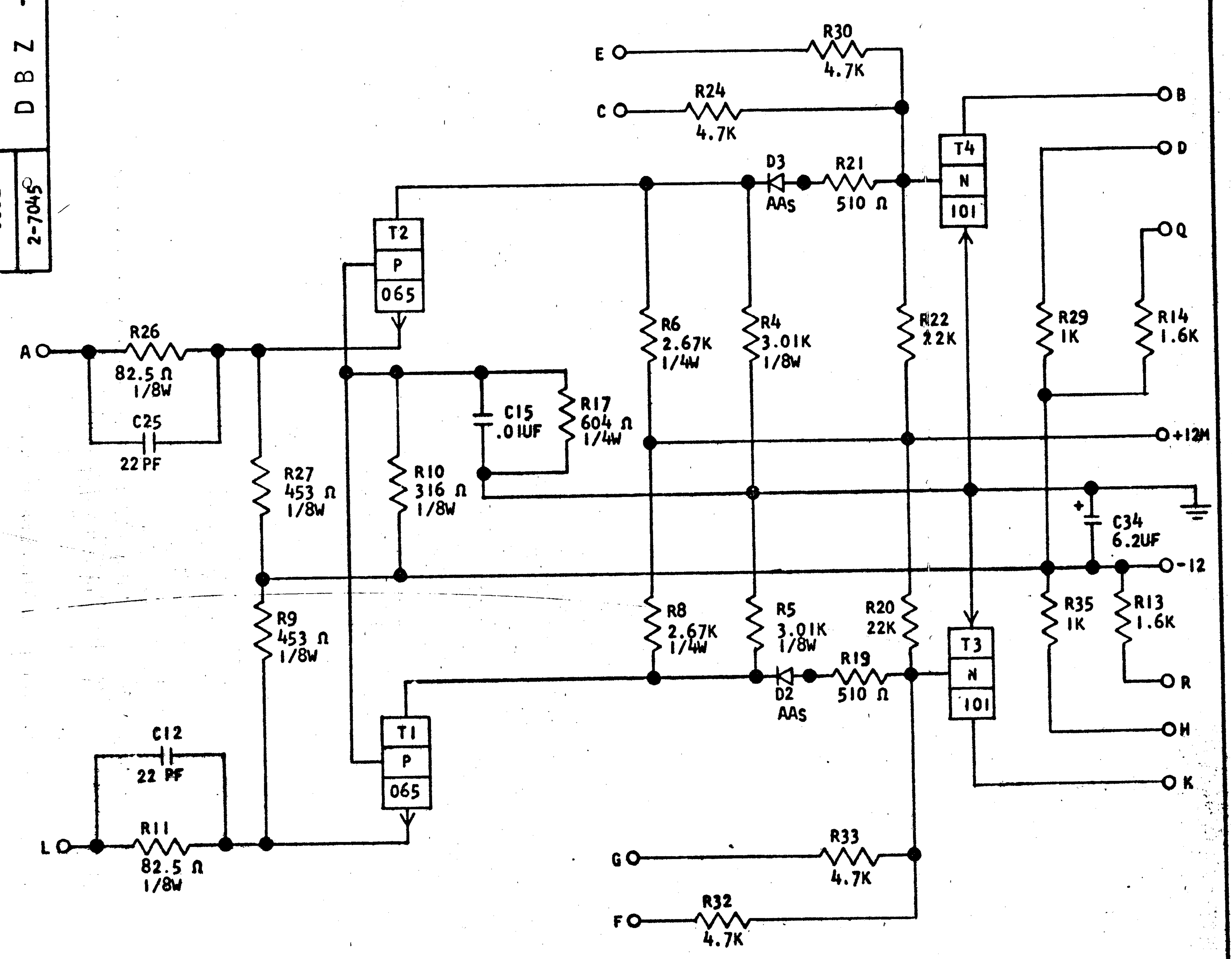
82-3987-2 6-22-61

370385

370385
D B Z -

STANDARDS CODE	2-7045

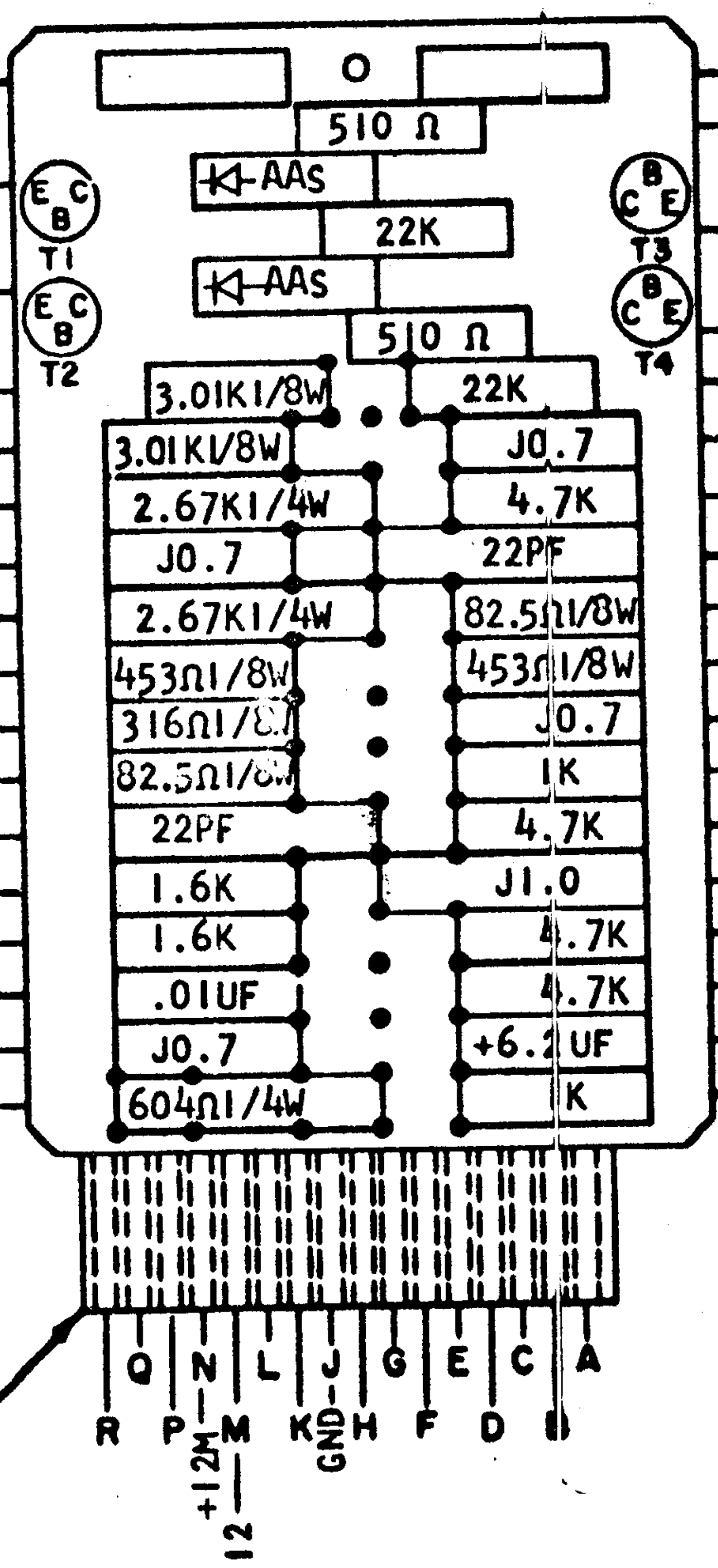
CONVERTER-DIFFUSED BASE S P-LINE TO SDTRL, OR SDTDL



NOTES

- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892102
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED (AS NOTE XVI, XIV)
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- XIV ALL 1/8 WATT RESISTORS ARE ±1% UNLESS OTHERWISE NOTED
- XV
- XVI ALL 1/4 WATT RESISTORS ARE ±1% UNLESS OTHERWISE NOTED
- XVII POSITIONS T3,T4 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING
- XVIII REFER TO FIELD SERVICE DRAWING PART NUMBER 729904 WHEN MAKING A CHANGE TO THIS CIRCUIT

065	526798	T1
065	526798	T2
		1
	491008	2
	491008	3
	479128	4
	479128	5
	491011	6
		7
	491011	8
	479083	9
	479075	10
	491202	11
	491224	12
	317018	13
	317018	14
	492411	15
		16
	217099	17



T3	369177	101
T4	369177	101
18		
19	317012	
20	323900	
21	317012	
22	323900	
23		
24	213549	
25	491224	
26	491202	
27	479083	
28		
29	213693	
30	213549	
31		
32	213549	
33	213549	
34	383608	
35	213693	

484137
A

COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT	12-2-60

HOLE PATTERN
491450

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR-CONV-DIFF BASE				
	S P-LINE TO SDTRL, OR SDTDL				
DESIGN			TYPE	SMS	1401
DETAIL			SCALE	NONE	
CHECK	SPR	12-2-60	DRAW	MDE	12-1-60
APPRO	BES	12-5-60	CHECK	SPR	12-2-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
12-5-60	110836	NOTE XV	11-7-62	114364	MDL
12-14-60	110870	NOTE XV			
3-10-61	111397	NOTE XV			
5-25-61	112021	NOTE XV			
6-22-62	113948	NOTE XV			

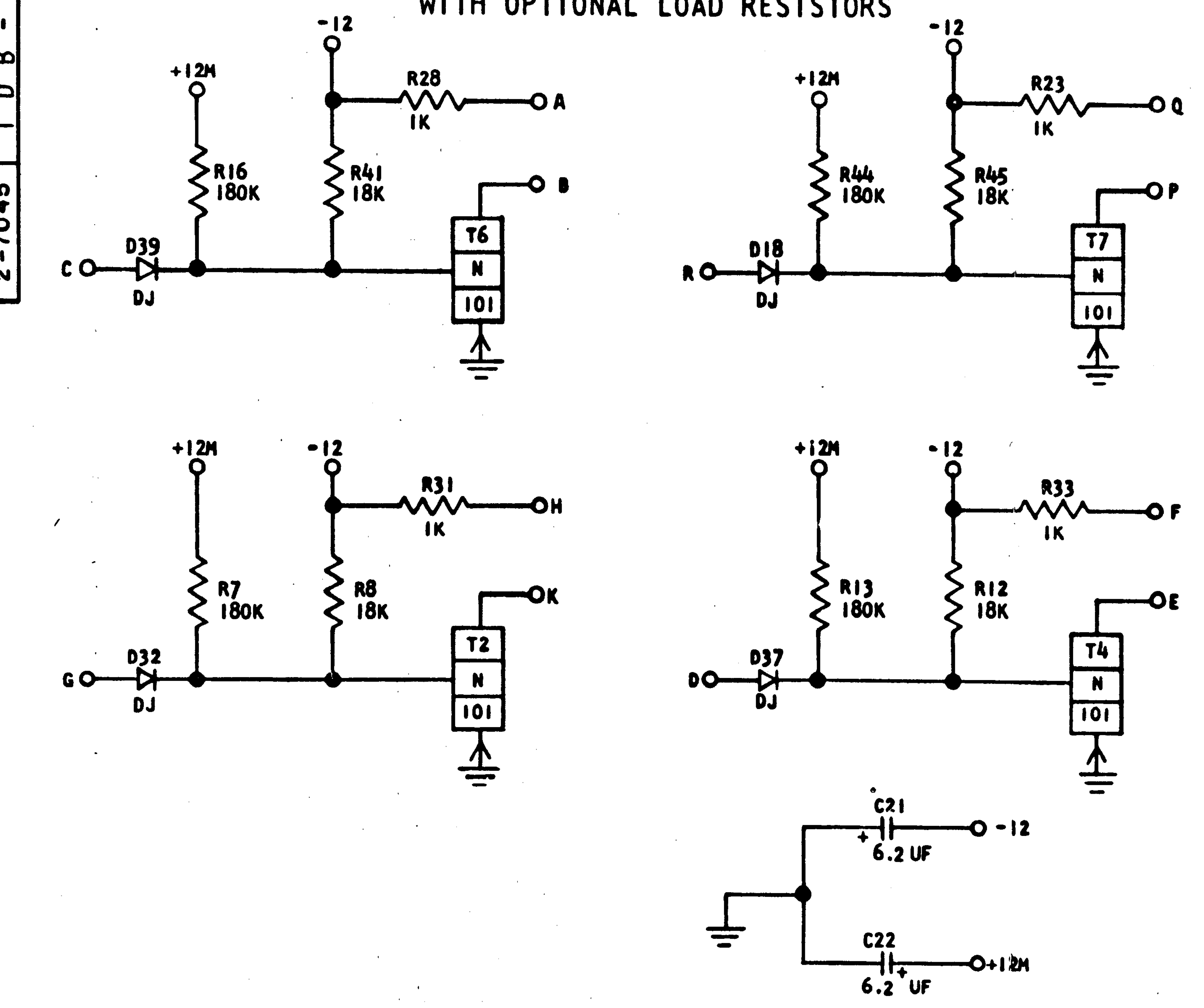
DEVELOPMENT NO.
X0509
2547-1407

370385

370389

370389	T D B -
STANDARDS CODE	2-7045

SDTRL-DISTRIBUTED LINE TERMINATOR WITH OPTIONAL LOAD RESISTORS



NOTES

I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892333

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

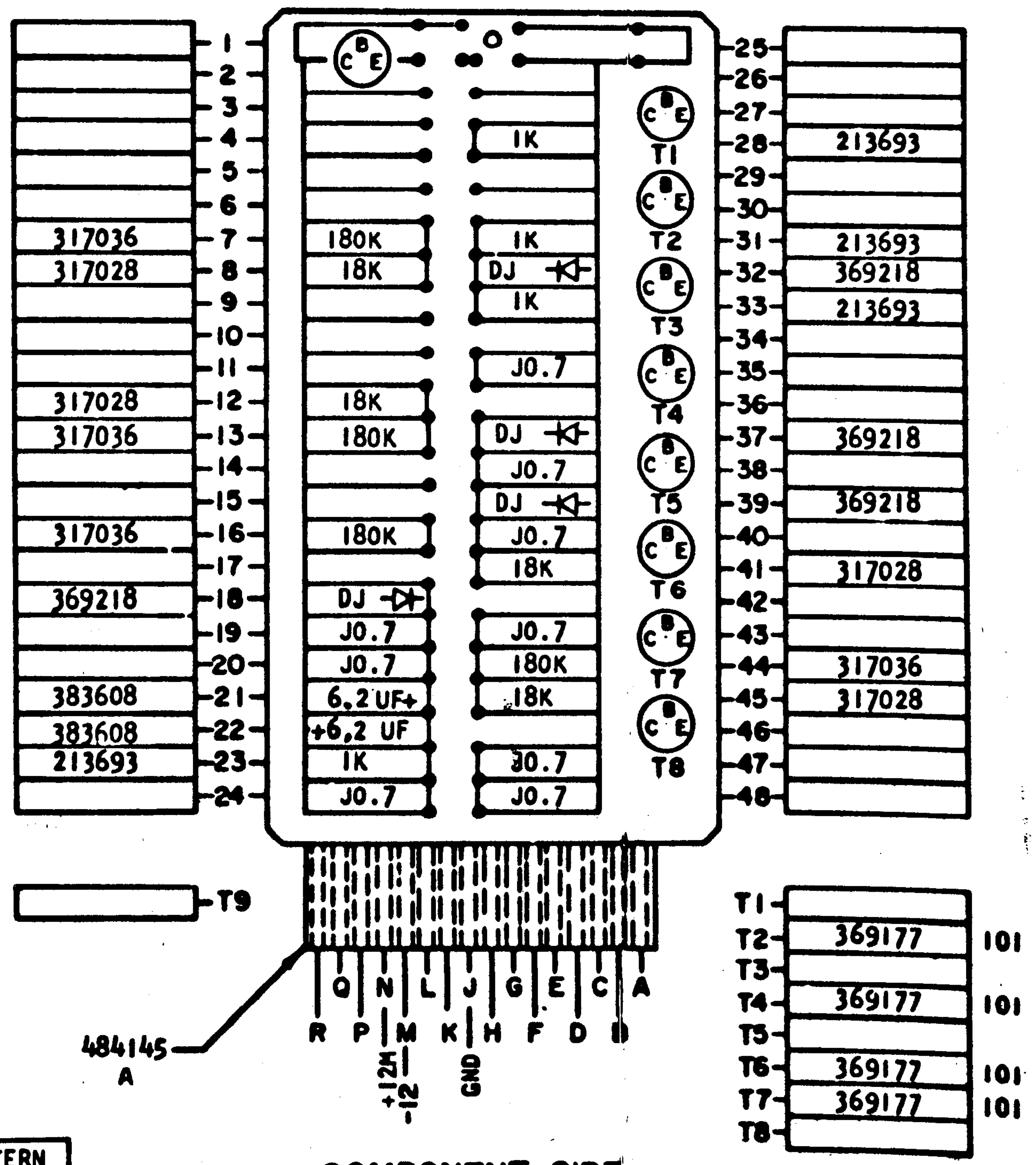
XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV

XV POSITIONS T2,T4,T6,T7, ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING.

XVI REFER TO FIELD SERVICE DRAWING PART NUMBER 729940 WHEN MAKING A CHANGE TO THIS CIRCUIT



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT	12-2-60

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.				
NAME	CARD ASM TSTR- SDTRL- DISTRIBUTED LINE TERMINATOR			
DESIGN			TYPE	SMS 1401
DETAIL			SCALE	NONE
CHECK	GWS	12-2-60	DRAW	MDE 12-1-60
APPRO	BES	12-5-60	CHECK	

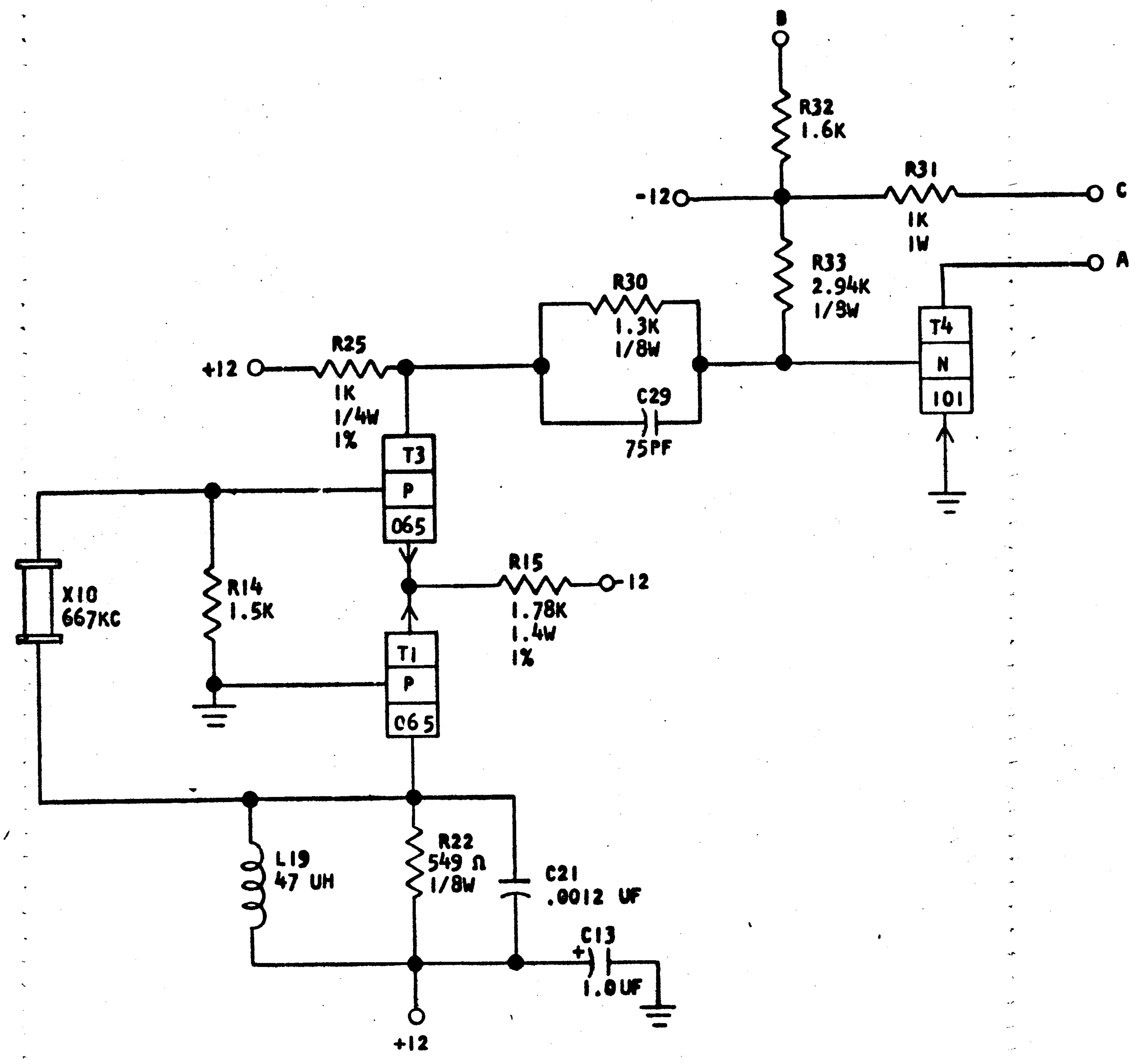
DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
12-5-60	110836	NOTE				X0496
3-10-61	111397	NOTE XIV				2547-1408
5-25-61	112021	NOTE XIV				
6-22-62	113948	NOTE XIV				
11-7-62	114364	MDL				

370389

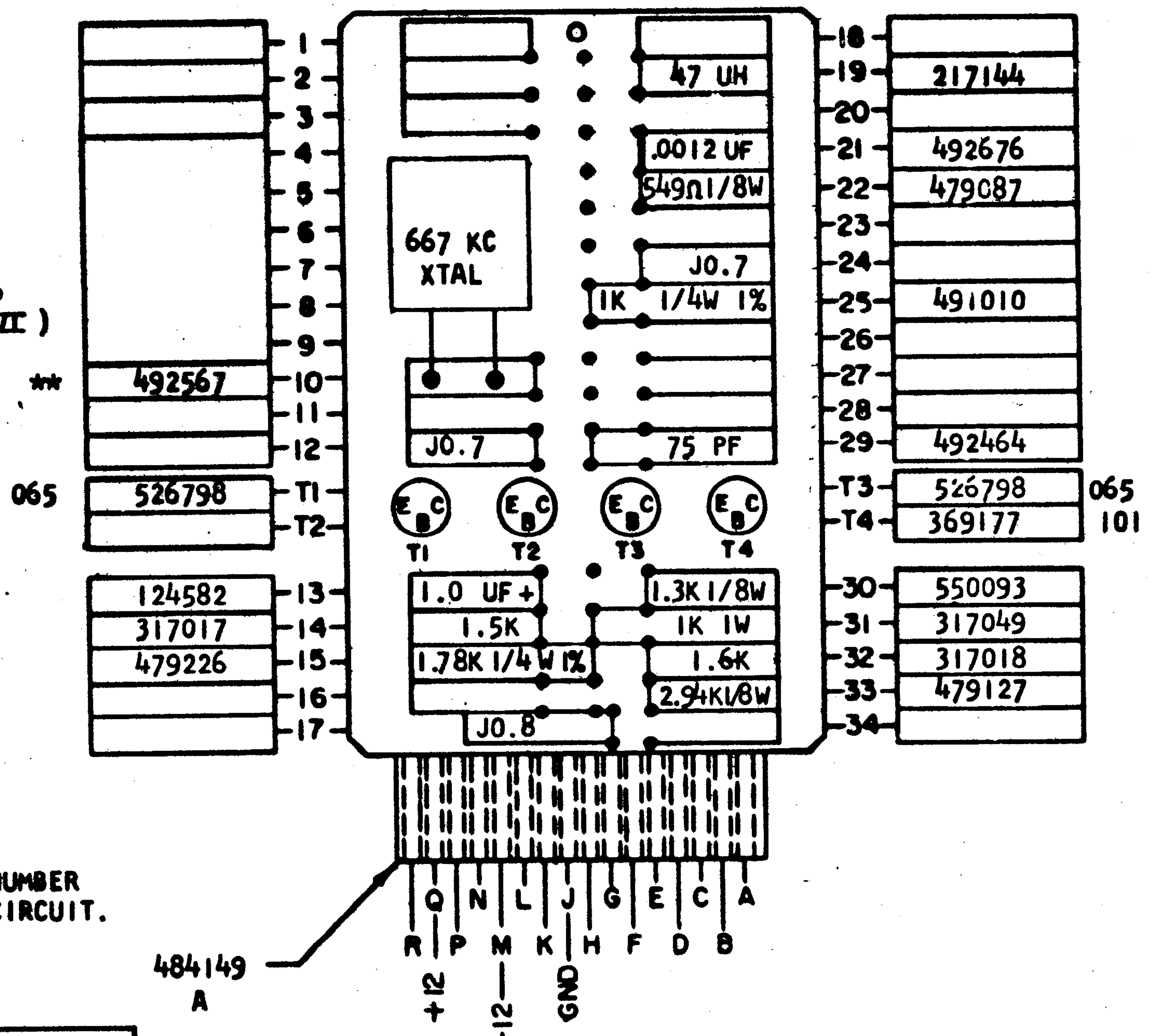
82-3987 8-24-60

370396	T D H -
STANDARDS CODE	2-7045

SDTDL-SDTRL-667 KC OSCILLATOR



NOTES
- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892396
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED (AS NOTE XVI)
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- ** XIV APPLY SUFFICIENT AMOUNT OF EPOXY (100601) TO PROVIDE A MINIMUM .12 FILLET ALONG BOTH SIDES OF CRYSTAL WHEN PRESSED TO CARD. CURE EPOXY AT 170°F ±5°F FOR A MINIMUM OF 30 MINUTES AND A MAXIMUM OF 60 MINUTES.
- XV
- XVI ALL 1/8 W[illegible] [illegible]SISTORS ARE ±1%
- XVII POSITION T4 . . .. TO-18 TRANSISTOR WHICH MAY BE MOUNTED ON .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING.
- **XVIII CRYSTAL 492567 MUST NOT BE SUBJECTED TO SOLDER MILLING OPERATIONS.
- XIX REFER TO FIELD SERVICE DRAWING PART NUMBER 729946 WHEN MAKING A CHANGE TO THIS CIRCUIT.



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT	12-2-60

HOLE PATTERN
491329

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR-SDTDL				
SDTRL-667 KC OSCILLATOR					
DESIGN			TYPE	SMS 1410	
DETAIL			SCALE	NONE	
CHECK	REC	12-3-60	DRAW	VE	12-1-60
APPRO	BES	12-5-60	CHECK	SPR	12-2-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
12-5-60	110839	NOTE XV	8-28-63	117802	MDL	X0502
1-9-61	110941	NOTE XV				2547-1414
3-10-61	111397	NOTE XV				
4-13-61	D111553	NOTE XV				
5-19-61	112017	NOTE XV				

370396

82- 3977 8-24-60

9

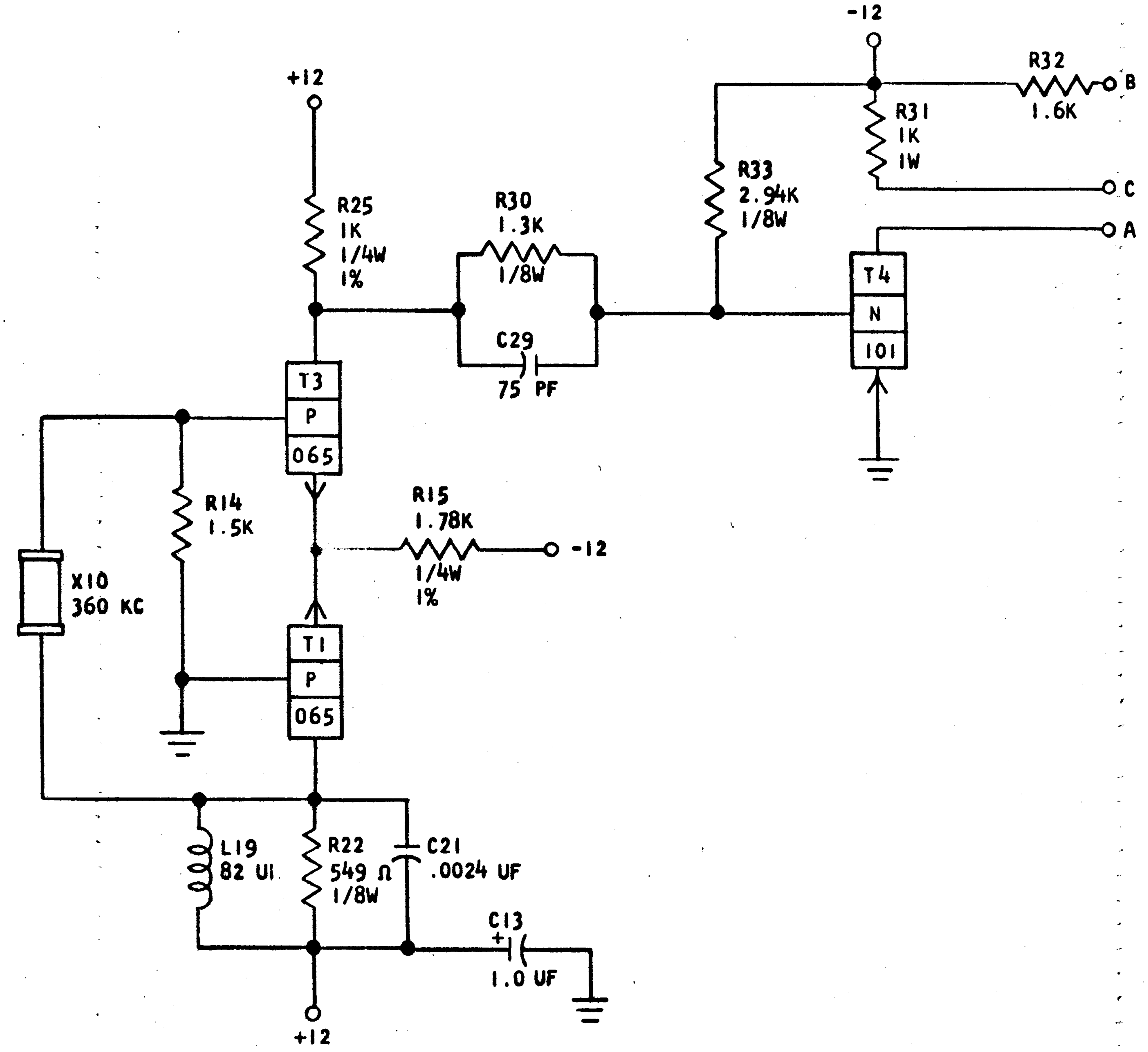
370397

T D G -

STANDARDS CODE 2-7045

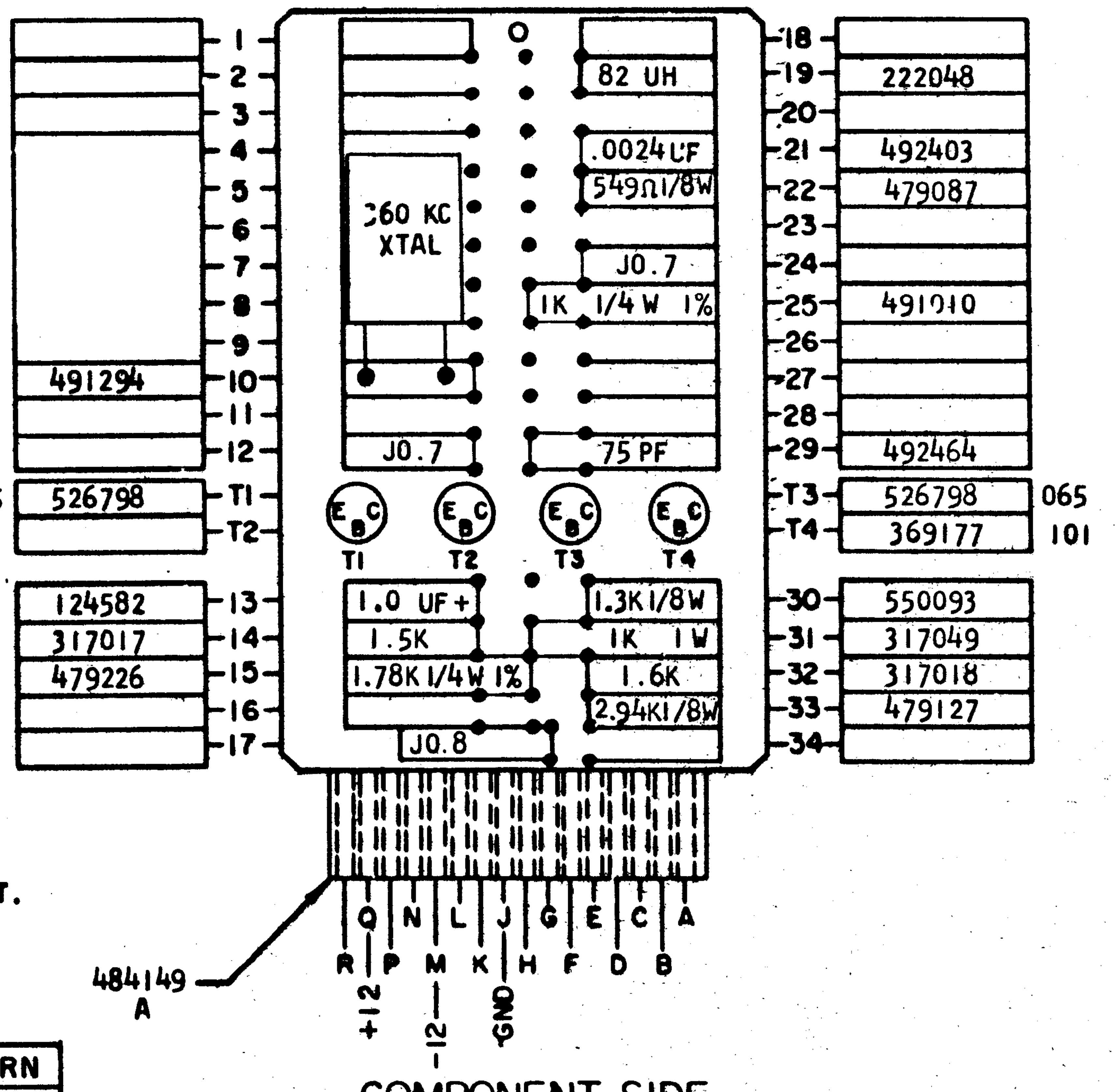
370397

SDTDL- SDTRL - 360 KC OSCILLATOR



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892397
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED (AS NOTE XIV)
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- XIV ALL 1/8 WATT RESISTORS ARE 1%
- ** XV APPLY SUFFICIENT AMOUNT OF EPOXY (100601) TO PROVIDE A MINIMUM .12 FILLET ALONG BOTH SIDES OF CRYSTAL WHEN PRESSED TO CARD. CURE EPOXY AT 170°F±5°F FOR A MINIMUM OF 30 MINUTES AND MAXIMUM OF 60 MINUTES.
- XVI
- XVII POSITION T4 :8 TRANSISTOR WHICH MAY BE MOUNTED ON .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING.
- ** XVIII CRYSTAL 491294 MUST NOT BE SUBJECTED TO SOLDER MILLING OPERATIONS.
- XIX REFER TO FIELD SERVICE DRAWING PART NUMBER 729945 WHEN MAKING A CHANGE TO THIS CIRCUIT.



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT	6-29-60

HOLE PATTERN
491329

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR-SDTDL SDTRL - 360 KC OSCILLATOR				
DESIGN			TYPE	SMS 1410	
DETAIL			SCALE	NONE	
CHECK	GWS	12-3-60	DRAW	VE	12-1-60
APPRO	BES	12-5-60	CHECK	SPR	12-2-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
12-5-60	110839	NOTE XVI	8-28-63	117802	MDL
1-9-61	110941	NOTE XVI			
3-10-61	111397	NOTE XVI			
4-13-61	D111553	NOTE XVI			
5-19-61	112017	NOTE XVI			

DEVELOPMENT NO.
X0503
2547-1413

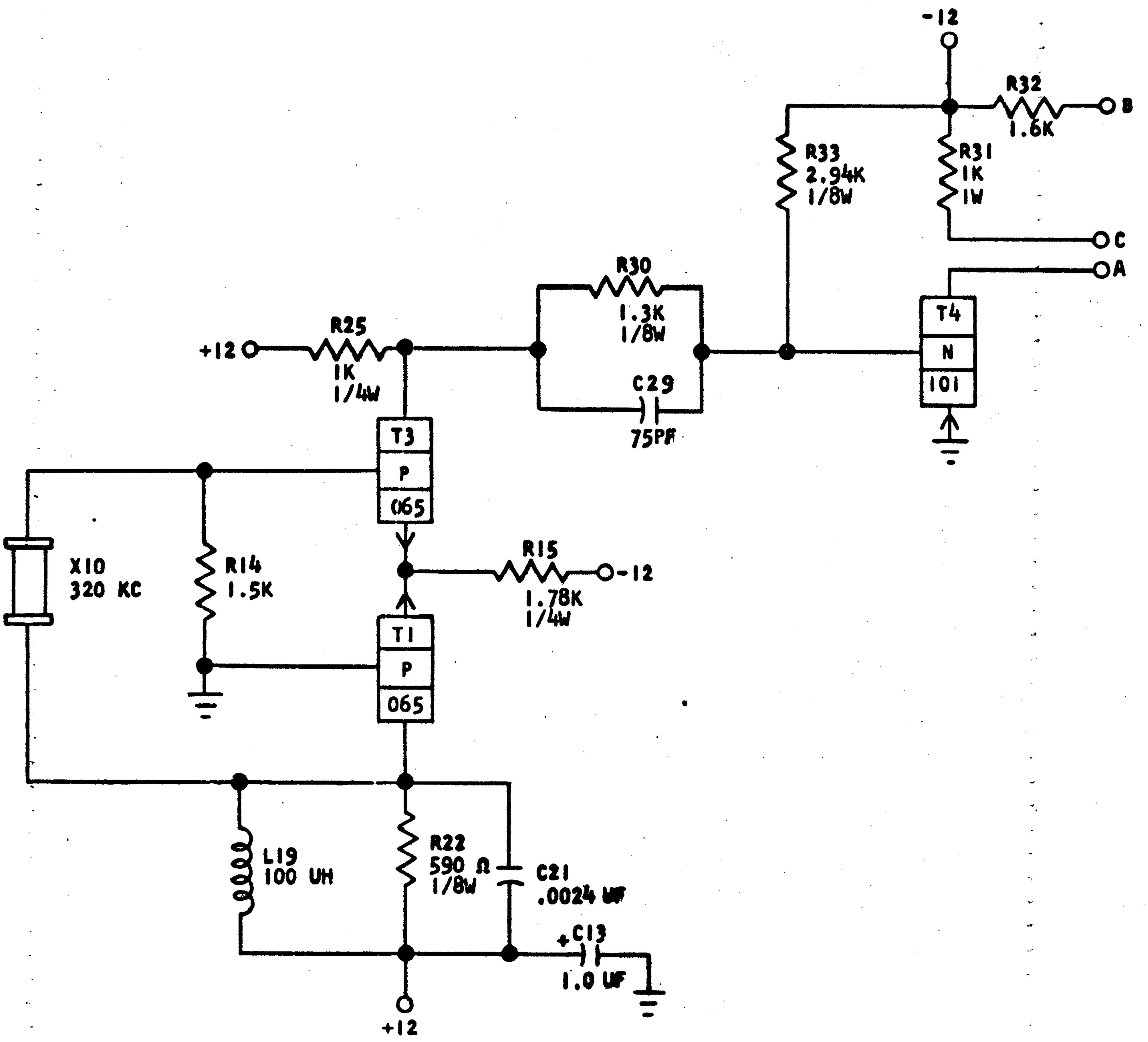
370397

82- 3977 8-24-60

370398	T D F - R
STANDARDS CODE	2-7045

370398

SDTDL-SDTRL-320 KC OSCILLATOR



NOTES

I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892398

II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED (AS NOTE XVI , XVII)

IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296

** XIV APPLY SUFFICIENT AMOUNT OF EPOXY (100601) TO PROVIDE A MINIMUM OF .12 FILLET ALONG BOTH SIDES OF CRYSTAL WHEN PRESSED TO CARD. CURE EPOXY AT 170°F ±5°F FOR A MINIMUM OF 30 MINUTES AND MAXIMUM OF 60 MINUTES.

XV

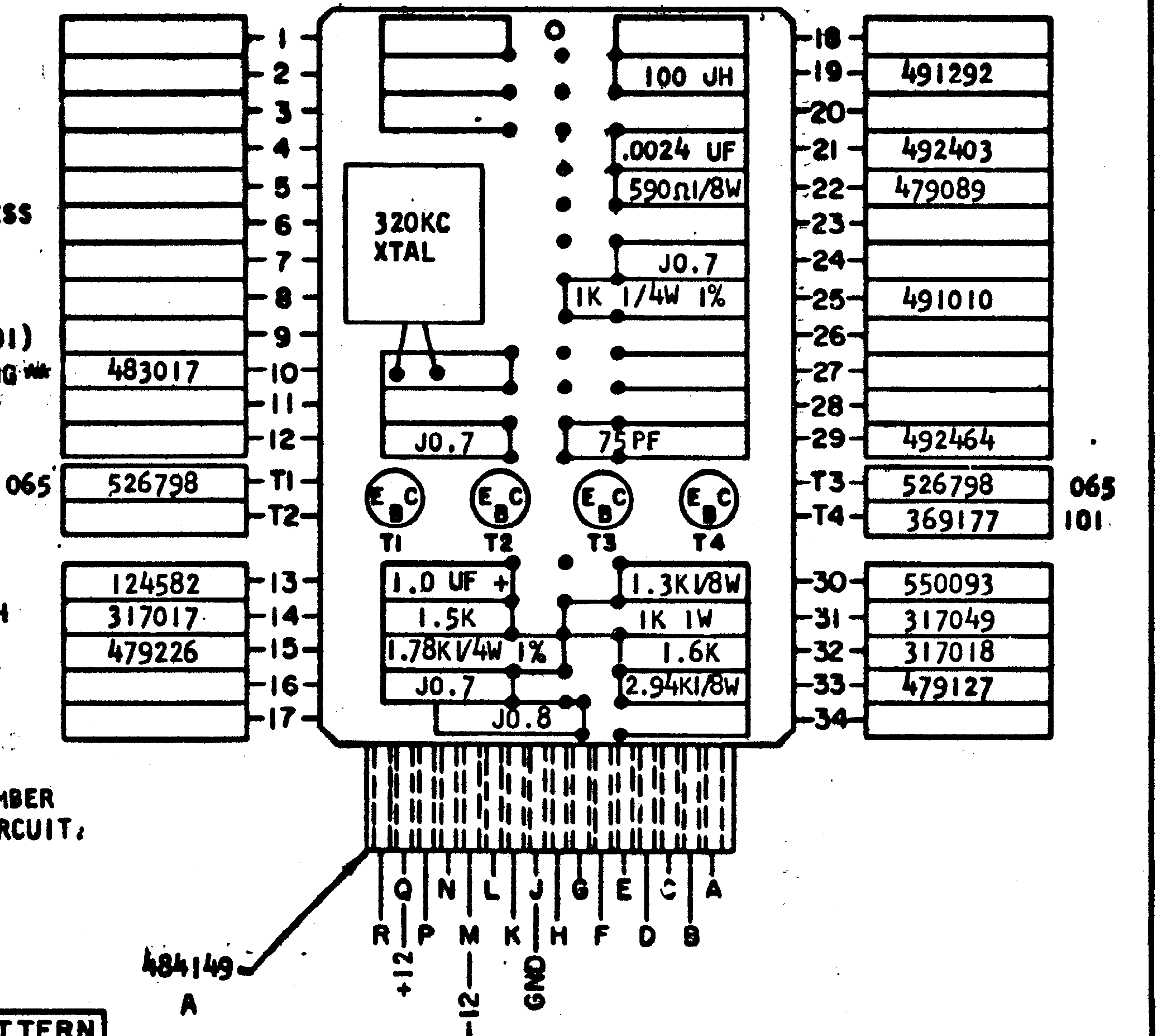
XVI ALL 1/8 WATT RESISTORS ARE ±1%

XVII ALL 1/4 WA[illegible]ISTORS ARE ±1%

XVIII POSITION T4 , , TO-18 TRANSISTOR WHICH MAY BE MOUNTED ON .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING.

** XIX CRYSTAL 483017 MUST NOT BE SUBJECTED TO SOLDER MILLING OPERATIONS

XX REFER TO FIELD SERVICE DRAWING PART NUMBER 729944 WHEN MAKING A CHANGE TO THIS CIRCUIT.



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT	12-2-60

HOLE PATTERN
491329

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- SDTDL SDTRL-320 KC OSCILLATOR				
DESIGN			TYPE	SMS 1410	
DETAIL			SCALE	NONE	
CHECK	GWS	12-3-60	DRAW	MDE	12-1-60
APPRO	BES	12-5-60	CHECK	SPR	12-2-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
12-5-60	110839	NOTE XV	8-28-63	117802	MDL
1-9-61	110941	NOTE XV			
3-10-61	111397	NOTE XV			
4-13-61	D111553	NOTE XV			
5-19-61	112017	NOTE XV			

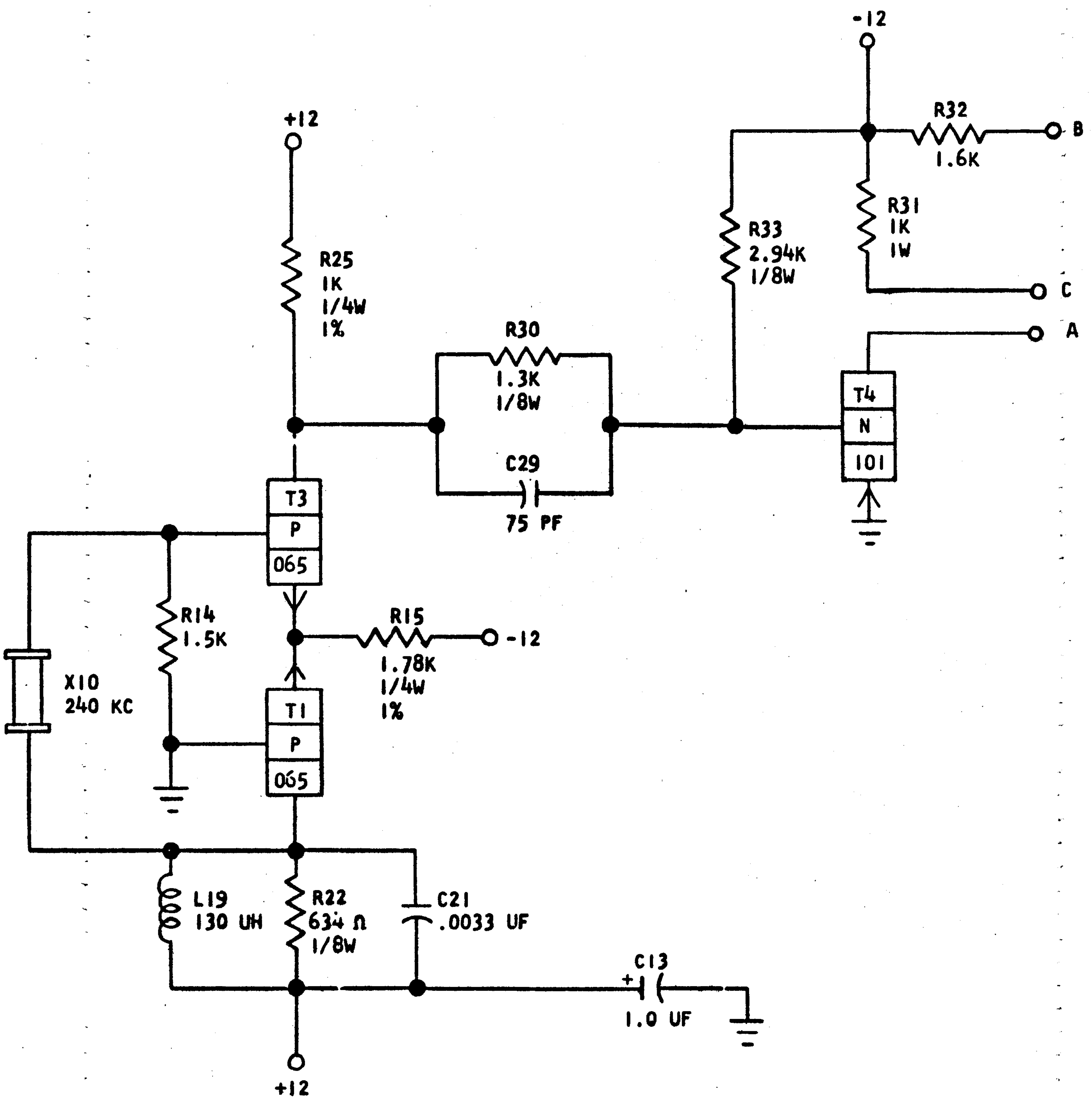
DEVELOPMENT NO.
X0504
2547-1412

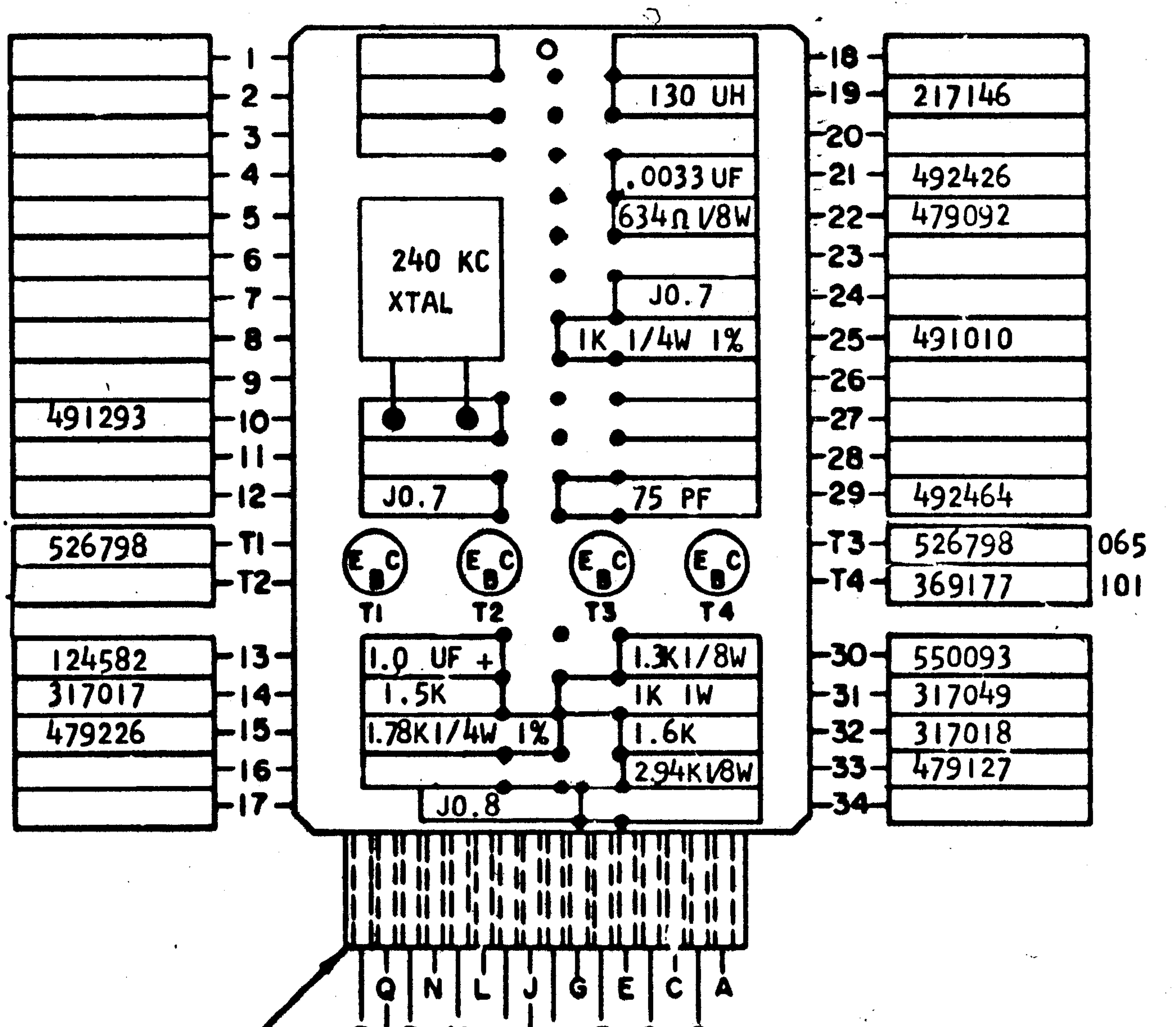
370398

370399	T D E -
STANDARDS CODE	2-7045

370399

SDTDL-SDTRL-240 KC OSCILLATOR





COMPONENT SIDE

NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892399
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED (AS NOTE XVI)
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER. 491296
- ** XIV APPLY SUFFICIENT AMOUNT OF EPOXY (100601) TO PROVIDE A MINIMUM .12 FILLET ALONG BOTH SIDES OF CRYSTAL WHEN PRESSED TO CARD. CURE EPOXY AT 170°F±5°F FOR A MINIMUM OF 30 MINUTES AND MAXIMUM OF 60 MINUTES.
- XV
- XVI ALL 1/8 WA[illegible] STORS ARE 1%
- XVII POSITION T4 IS A TO-18 TRANSISTOR WHICH MAY BE MOUNTED ON .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING.
- ** XVIII CRYSTAL 491293 MUST NOT BE SUBJECTED TO SOLDER MILLING OPERATIONS.
- XIX REFER TO FIELD SERVICE DRAWING PART NUMBER 729943 WHEN MAKING A CHANGE TO THIS CIRCUIT.

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT	12-2-60

HOLE PATTERN
491329

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR-SDTDL SDTRL-240 KC OSCILLATOR				
DESIGN			TYPE	SMS-1410	
DETAIL			SCALE	NONE	
CHECK	GWS	12-3-60	DRAW	VE	12-1-60
APPRO	BES	12-5-60	CHECK	SPR	12-2-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
12-5-60	110839	NOTE XV	8-28-63	117802	MDL	X0505
1-9-61	110941	NOTE XV				2547-1411
3-10-61	111397	NOTE XV				
4-13-61	D111553	NOTE XV				
5-19-61	112017	NOTE XV				

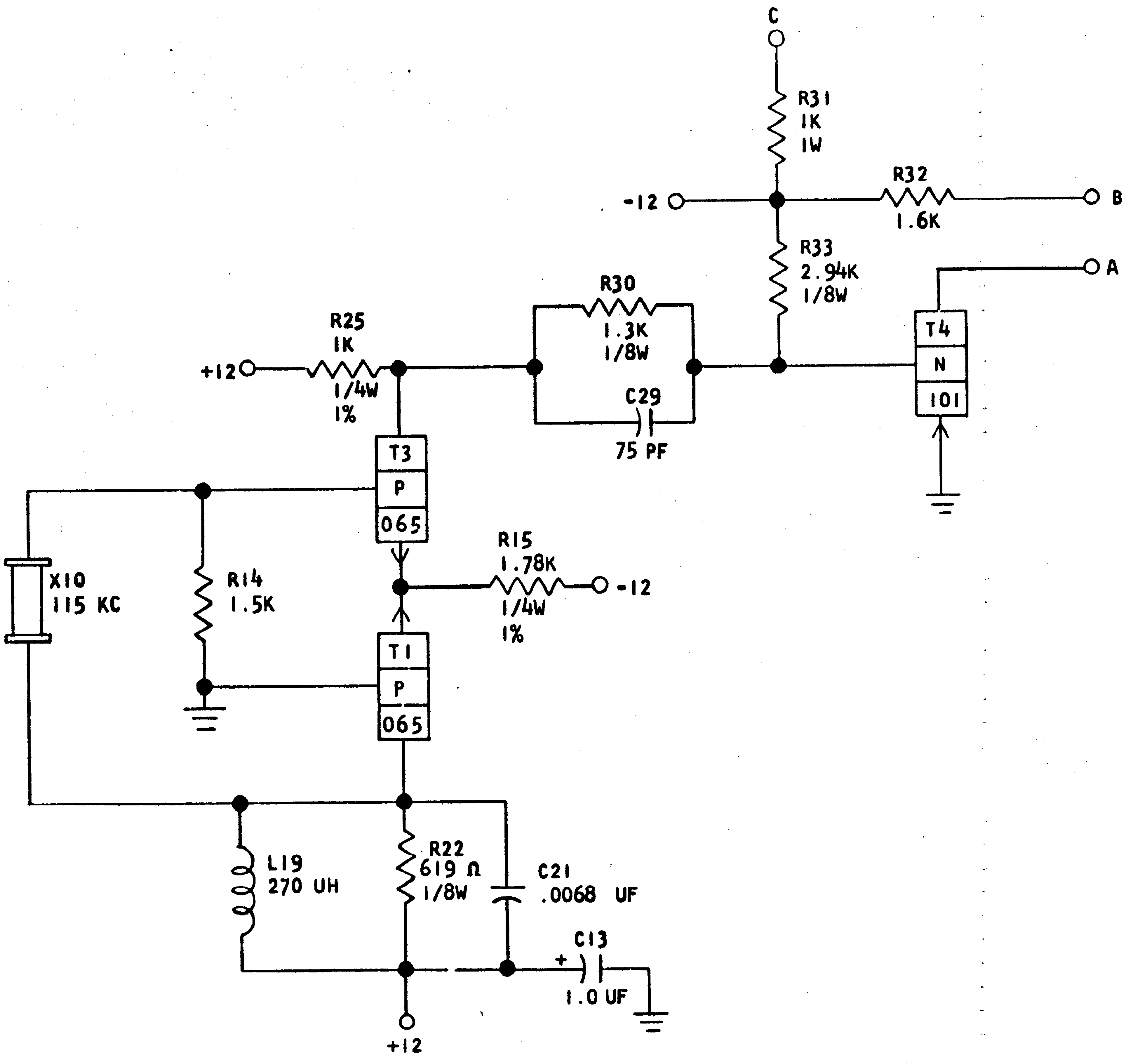
370399

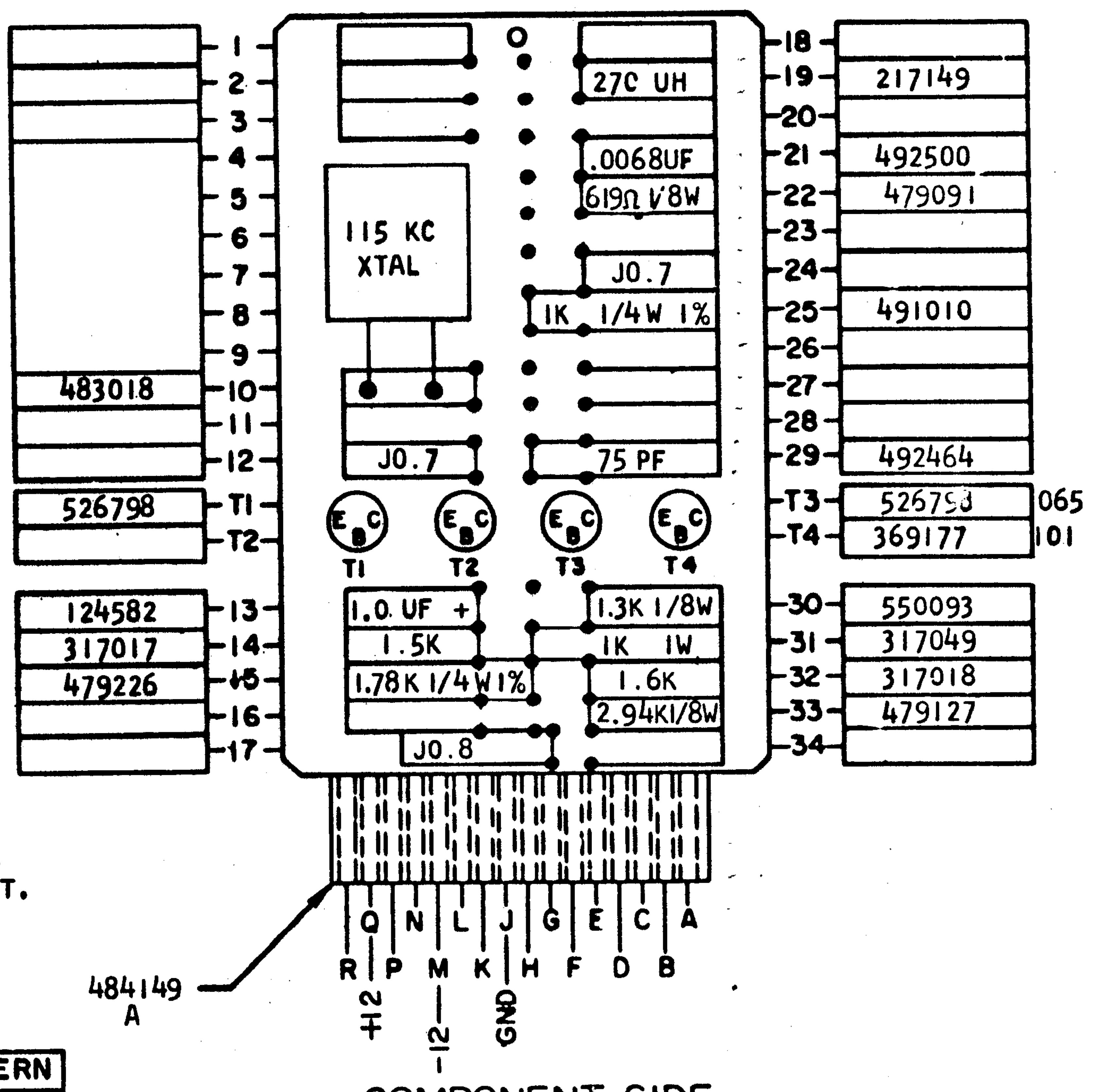
82-3977 8-24-60

McG

370400	T D D -
STANDARDS CODE	2-7045

SDTDL-SDTRL - 115 KC OSCILLATOR





COMPONENT SIDE

NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892400
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED (AS NOTE XIV)
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- XIV ALL 1/8 WATT RESISTORS ARE 1%
- ** XV APPLY SUFFICIENT AMOUNT OF EPOXY (100601) TO PROVIDE A MINIMUM .12 FILLET ALONG BOTH SIDES OF CRYSTAL WHEN PRESSED TO CARD. CURE EPOXY AT 170°F±5°F FOR A MINIMUM OF 30 MINUTES AND MAXIMUM OF 60 MINUTES.
- XVI
- XVII POSITION T4 . A TO-18 TRANSISTOR WHICH MAY BE MOUNTED ON .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING.
- ** XVIII CRYSTAL 483018 MUST NOT BE SUBJECTED TO SOLDER MILLING OPERATION.
- XIX REFER TO FIELD SERVICE DRAWING PART NUMBER 729942 WHEN MAKING A CHANGE TO THIS CIRCUIT.

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT	12-2-60

HOLE PATTERN
491329

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- SDTDL SDTRL-115 KC OSCILLATOR				
DESIGN			TYPE	SMS 1410	
DETAIL			SCALE	NONE	
CHECK	REC	12-2-60	DRAW	VE	12-1-60
APPRO	BES	12-5-60	CHECK	APR	12-2-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
12-5-60	110839	NOTE XVI	8-28-63	117802	MDL
1-9-61	110941	NOTE XVI			
3-10-61	111397	NOTE XVI			
4-13-61	D111553	NOTE XVI			
5-19-61	112017	NOTE XVI			

DEVELOPMENT NO.
X0506
2547-1410

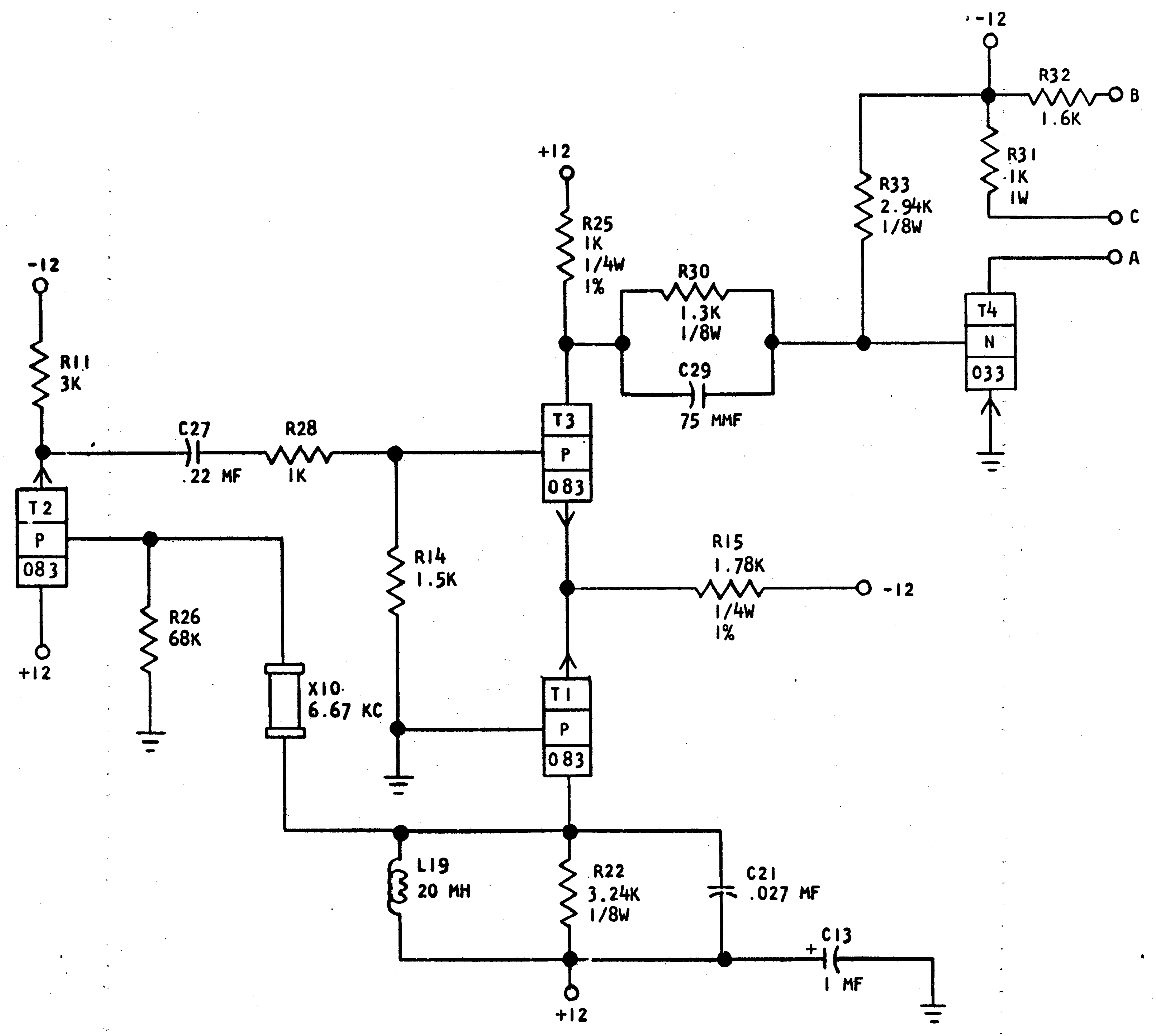
370400

S.M.

370401

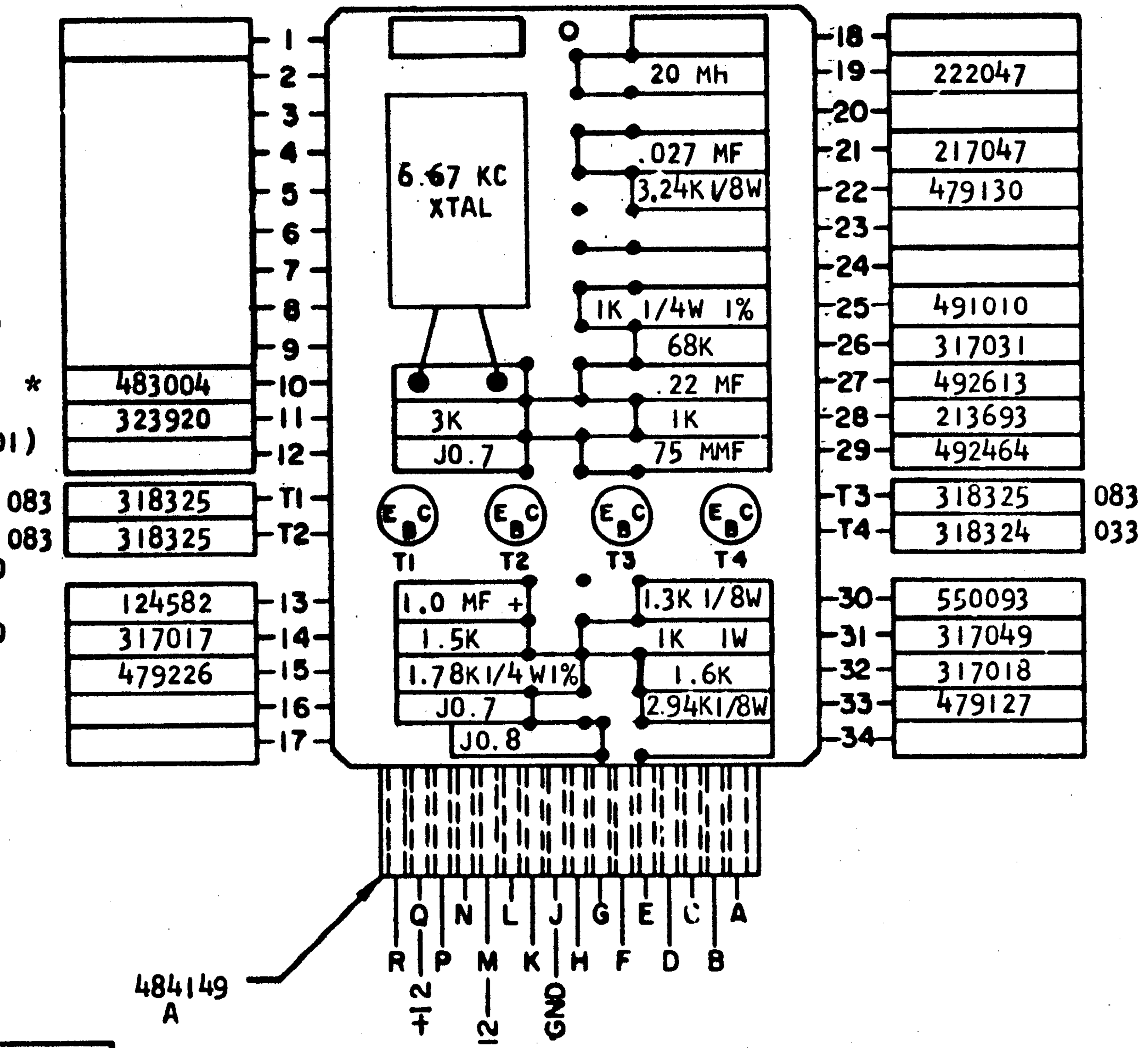
370401	TDC -
STANDARDS CODE	2-7045

SDTDL-SDTRL - 6.67 KC OSCILLATOR



NOTES

- **X** CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892401
- **XI** ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- **XII** ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED (AS NOTE XIV)
- **XIII** "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- **XIV** ALL 1/8 WATT RESISTORS ARE 1%
- * **XV** APPLY SUFFICIENT AMOUNT OF EPOXY (100601) TO PROVIDE A MINIMUM .12 FILLET ALONG BOTH SIDES OF CRYSTAL WHEN PRESSED TO CARD. CURE EPOXY AT 170°F±5°F FOR A MINIMUM OF 30 MINUTES AND MAXIMUM OF 60 MINUTES.
- * **XVI** CRYSTAL 483[illegible] T NOT BE SUBJECTED TO SOLDER MILLING OPERATIONS.
- **XVII** REFER TO FIELD SERVICE DRAWING PART NUMBER 729941 WHEN MAKING A CHANGE TO THIS CIRCUIT.



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT	12-2-60

HOLE PATTERN
491329

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR - SDTDL SDTRL-6.67 KC OSCILLATOR				
DESIGN			TYPE	SMS 1410	
DETAIL			SCALE	NONE	
CHECK	PEC	12-2-60	DRAW	VE	12-1-60
APPRO	BES	12-5-60	CHECK	SPR	12-2-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
12-5-60	110839	IWB			
1-9-61	110941	IWB			
4-13-61	D111553	IWB			
8-28-63	117802	MDL			

DEVELOPMENT NO.	
X0507	370401
2547-1409	

82- 3977 8-24-60

McG

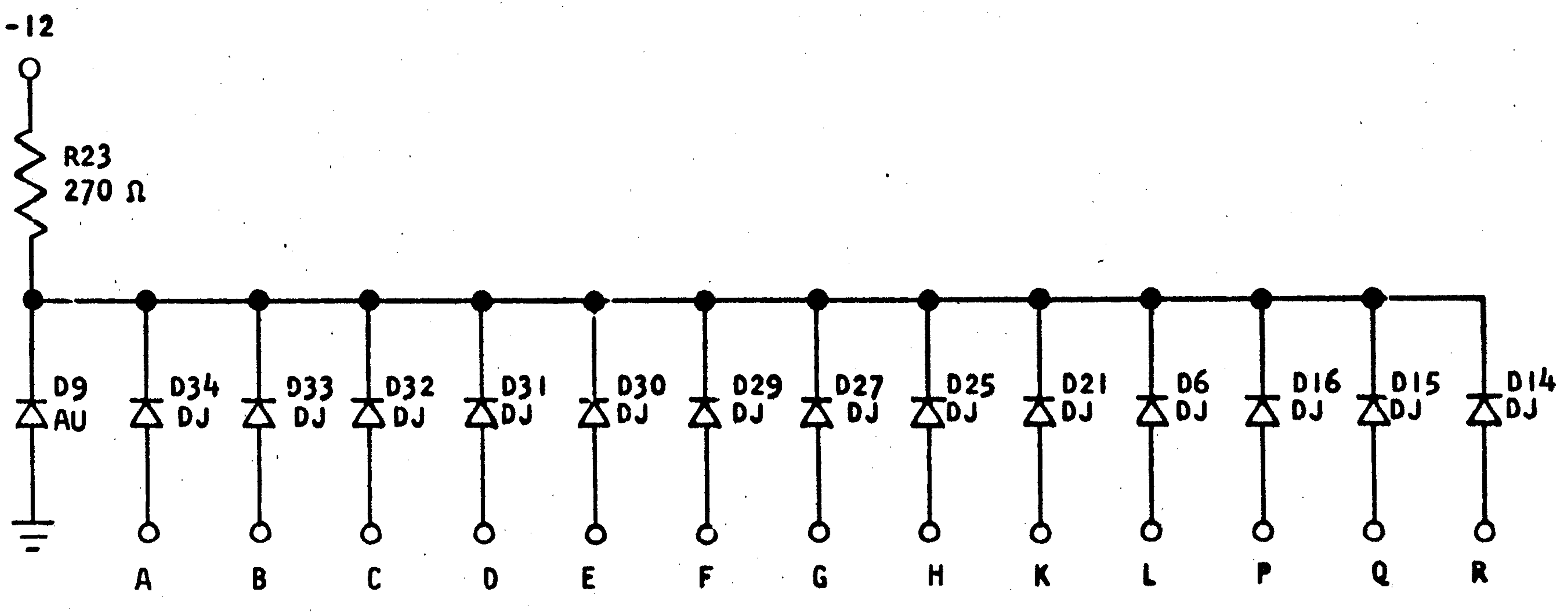
370414

A J F -

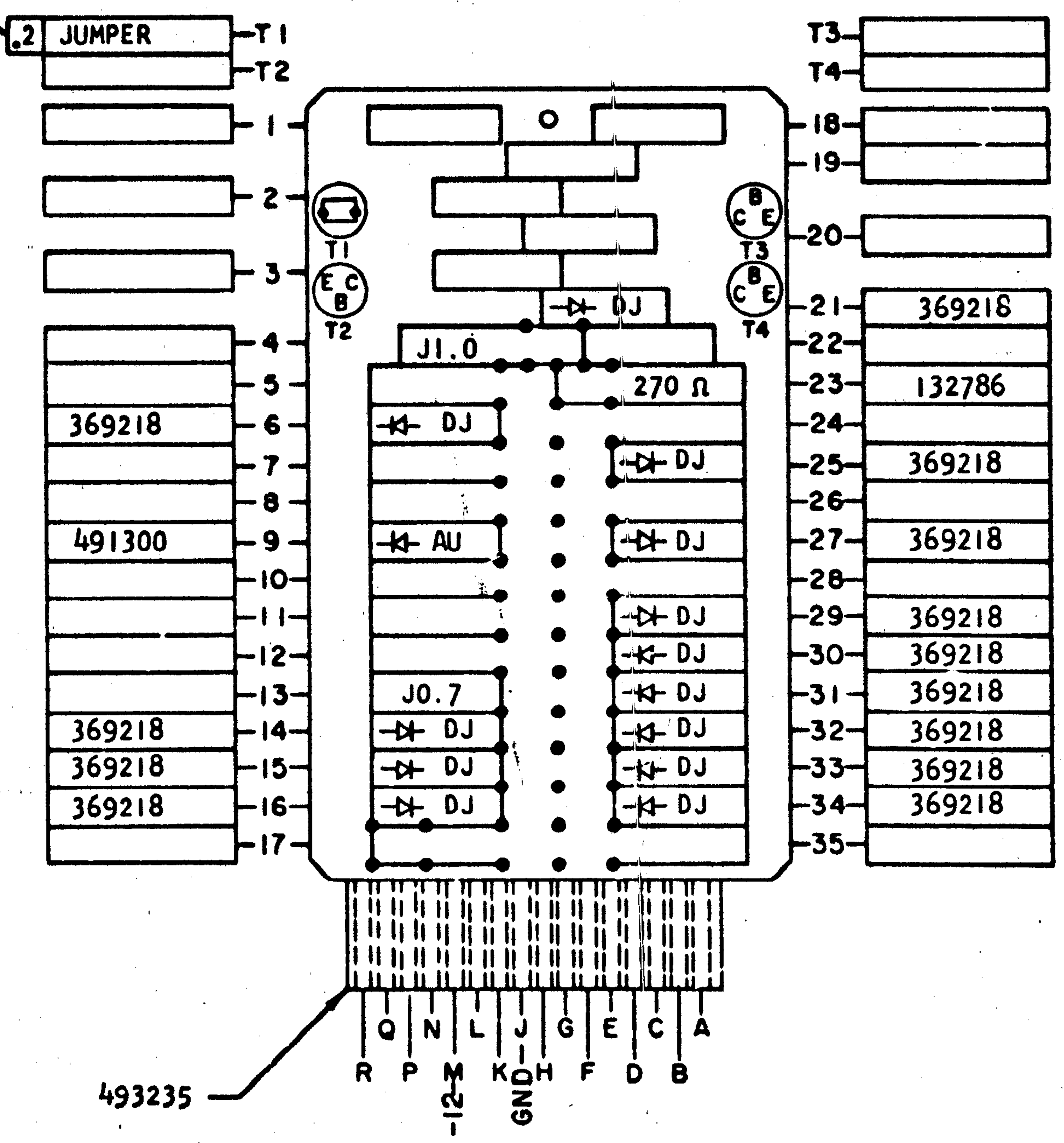
STANDARDS CODE	2-7045

370414

DIODE CLAMP CARD



NOTE XIV



NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892414

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1 WATT AND ±5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296

XIV ASSEMBLE .200 JUMPER IN POSITION T1 FROM COLLECTOR TO EMITTER

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H. D. Hosford	12-7-60

HOLE PATTERN
491450

COMPONENT SIDE

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR-DIODE CLAMP CARD				
DESIGN			TYPE	SMS 1410	
DETAIL			SCALE	NONE	
CHECK	AP	12-9-60	DRAW	VE	12-9-60
APPRO	BES	12-14-60	CHECK	CWH	12-13-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
12-14-60	110871	JWB			
12-12-61	113144	IWB			

DEVELOPMENT NO.
X0566

370414

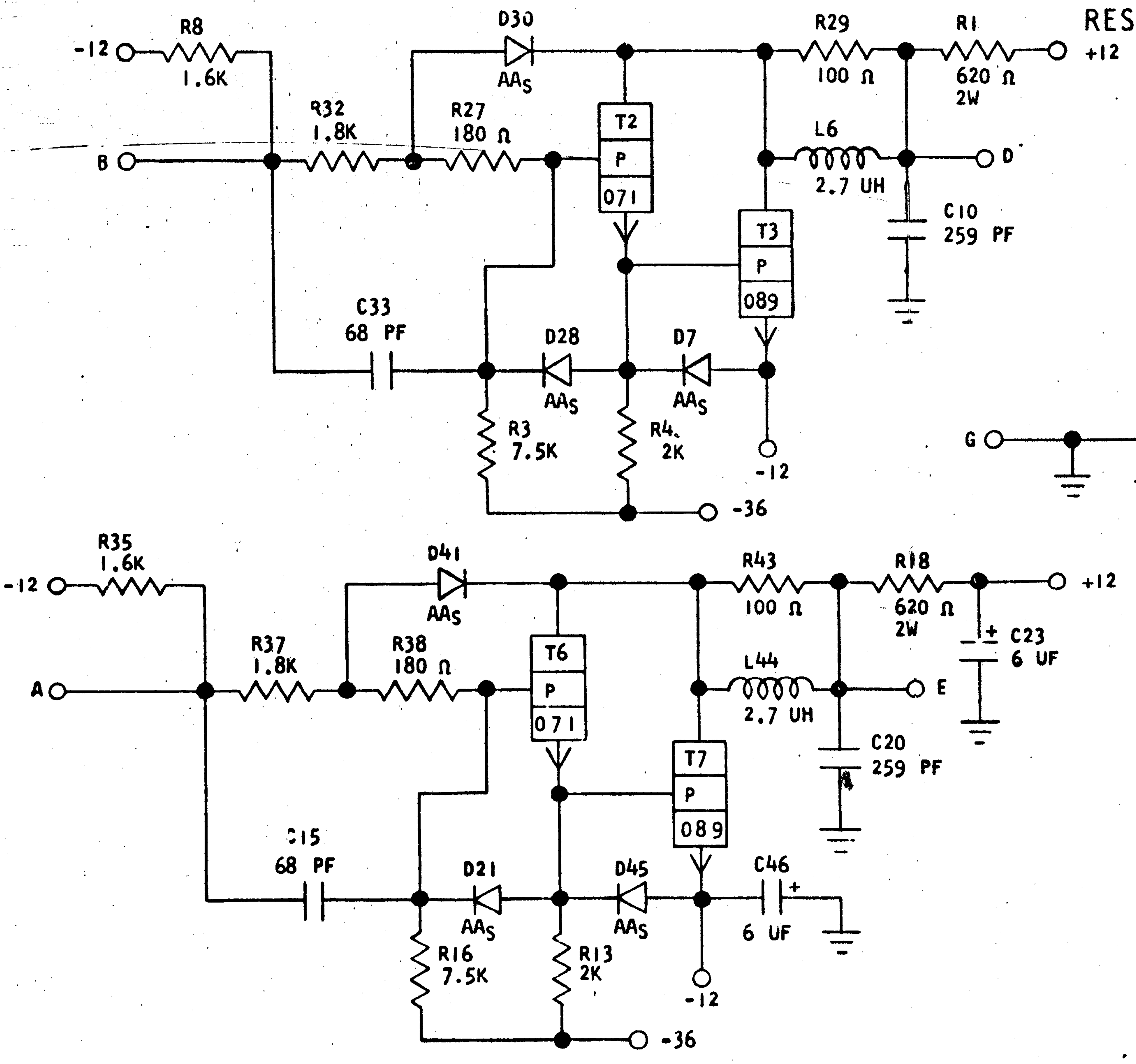
AD

370415	DHN-
STANDARDS CODE	2-7045

370415

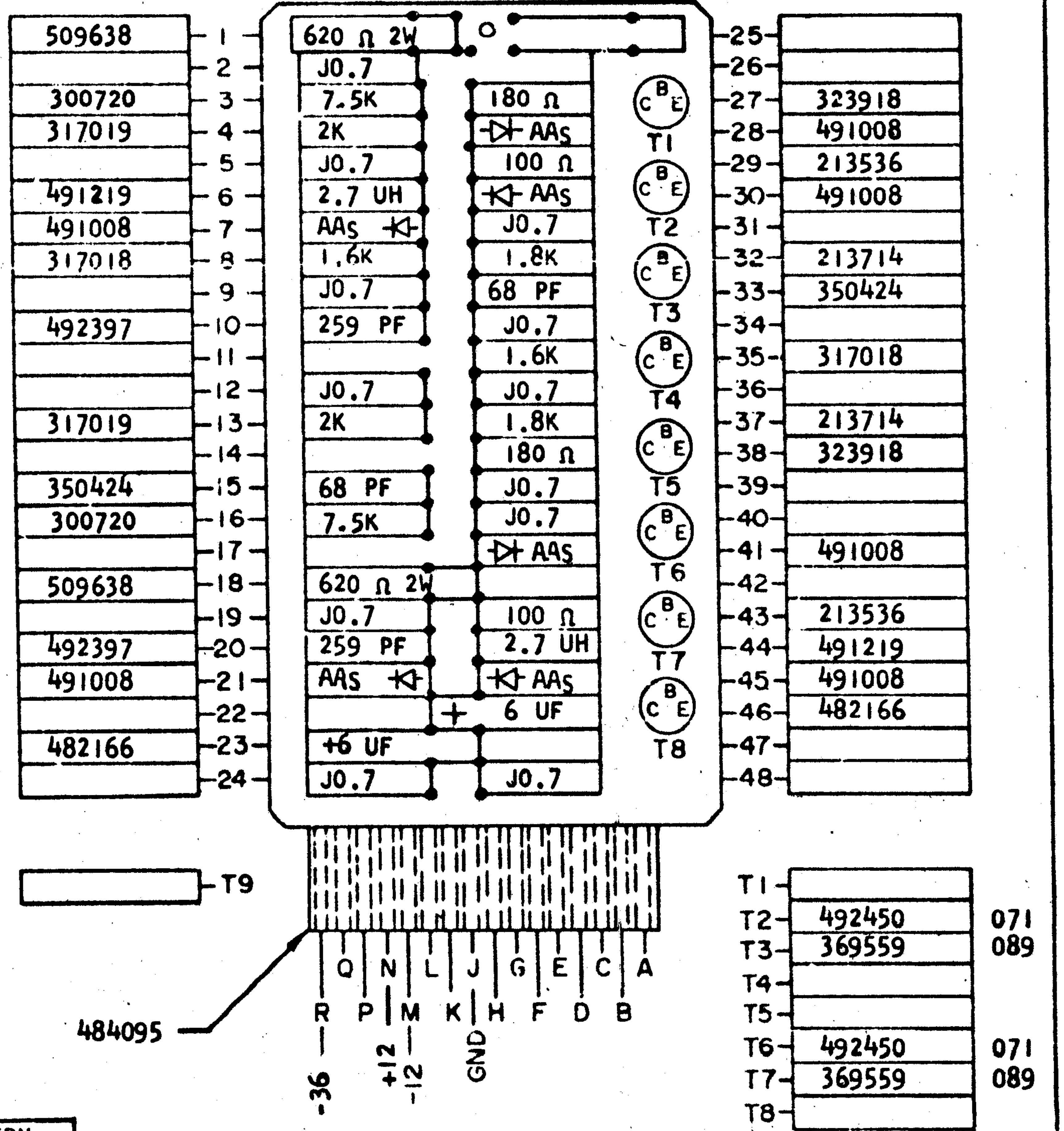
RESTRICTED NOTE XIV

DRIFT STROBE DRIVER



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892415
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV RESTRICTED TO 1410 USAGE ONLY



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
D.P. Brown	12-16-60

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.				
NAME	CARD ASM TSTR - DRIFT STROBE DRIVER			
DESIGN			TYPE	SMS 1410
DETAIL	AP	12-19-60	SCALE	NONE
CHECK	AP	12-19-60	DSGN	
APPRD	BES	12-21-60	CHECK	

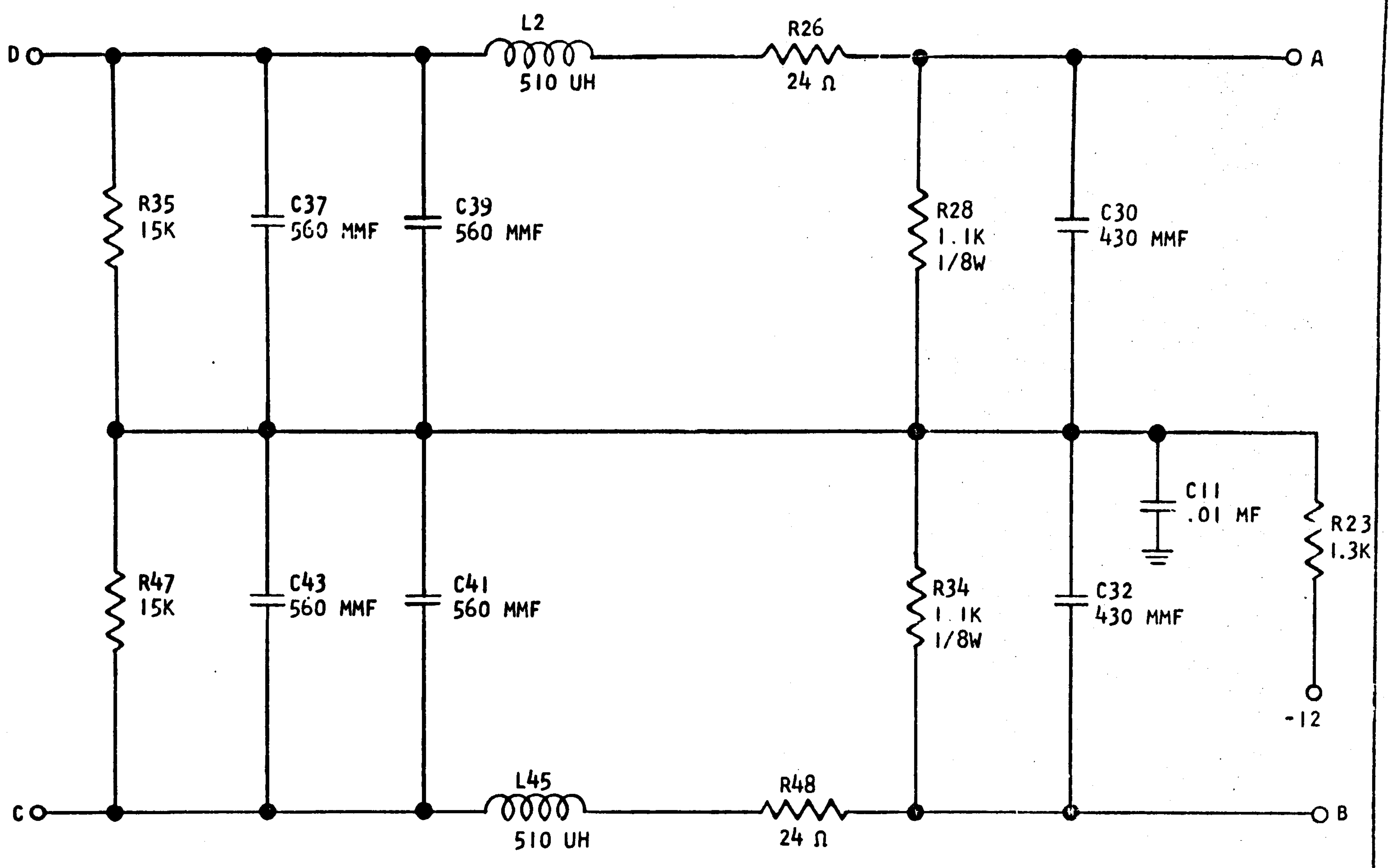
DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
12-21-60	110934	NOTE XIV				MEMX011
1-26-61	D110954	NOTE XIV				
12-13-61	113142	NOTE XIV				

370415

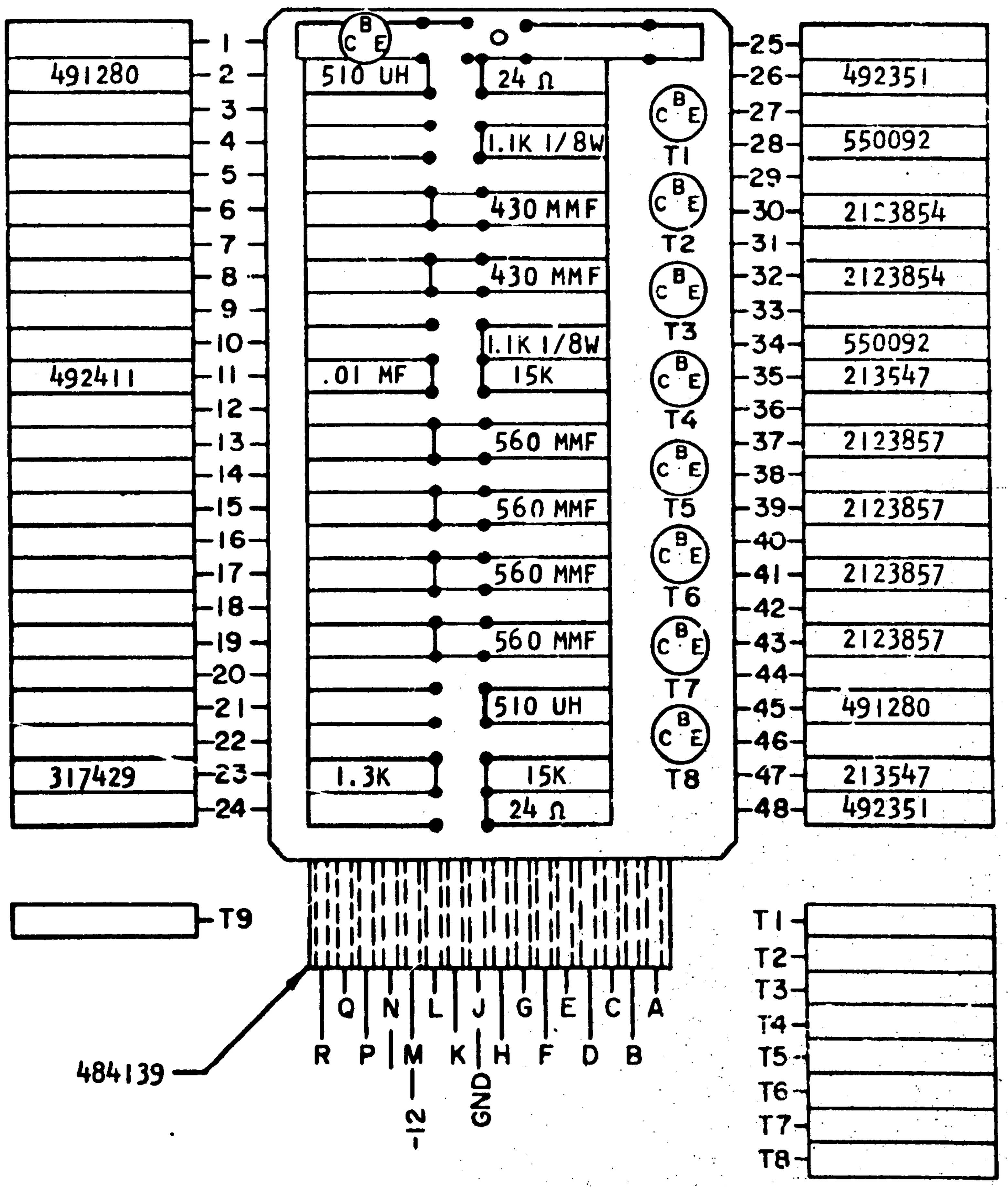
32-3987 9-24-60

370416	YAX-
STANDARDS CODE	2-7045

BUTTERWORTH FILTER



NOTES
- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892416
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER
- XIV ALL 1/8 WATT RESISTORS ARE ±1%



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
RCL JJB	12-8-60

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR- BUTTERWORTH FILTER				
DESIGN	HK	9-9-60	TYPE	SMS 1405	
DETAIL	WO	9-14-60	SCALE	NONE	
CHECK	JJD	11-9-60	DRAW	VE	12-16-60
APPRO	JJD	11-9-60	CHECK	Hoa	12-19-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
12-28-60	110938	JWB				3351-X-0364

370416

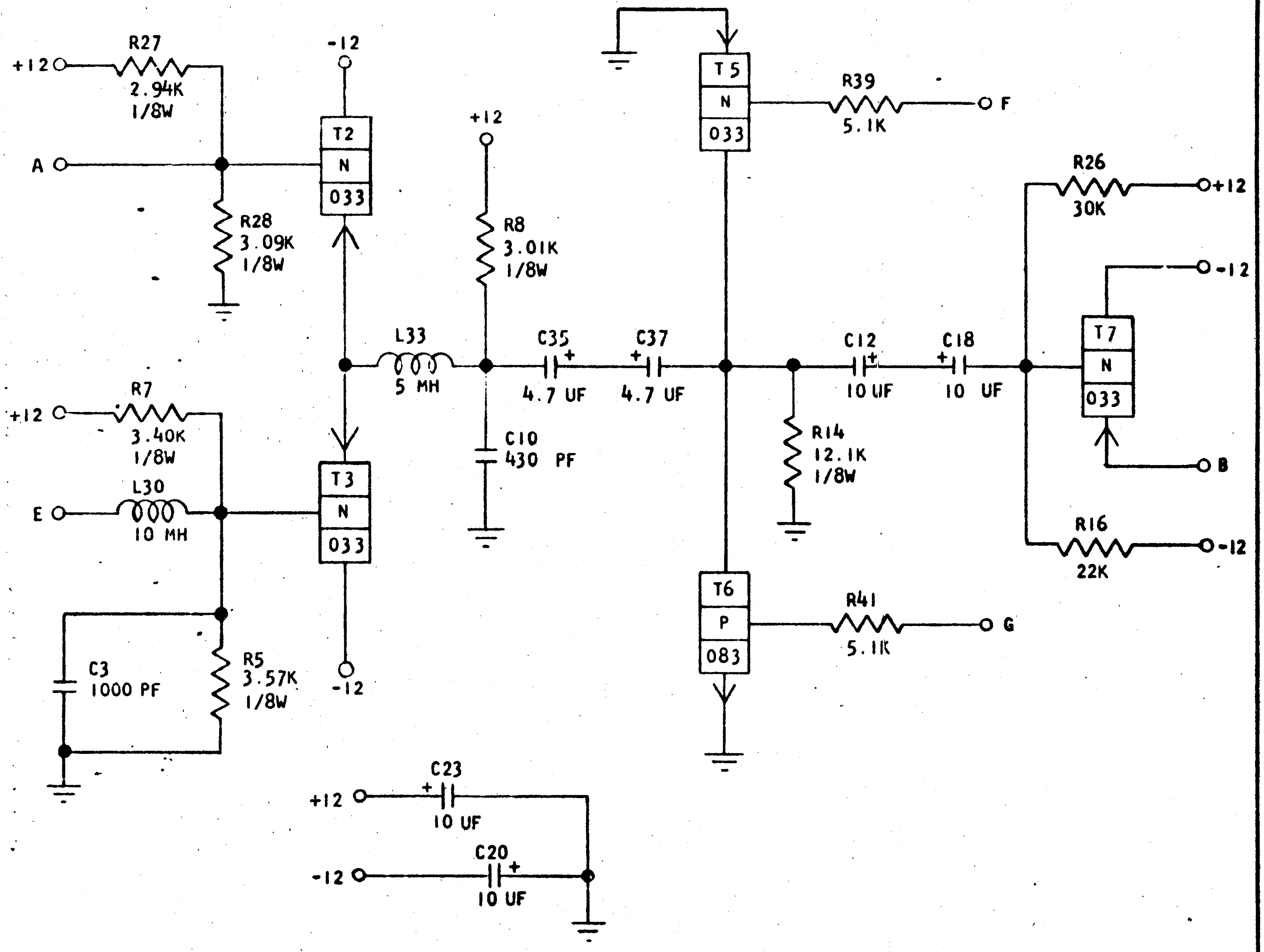
82-3987 8-24-60

370417
YBY-

STANDARDS CODE 2-7045

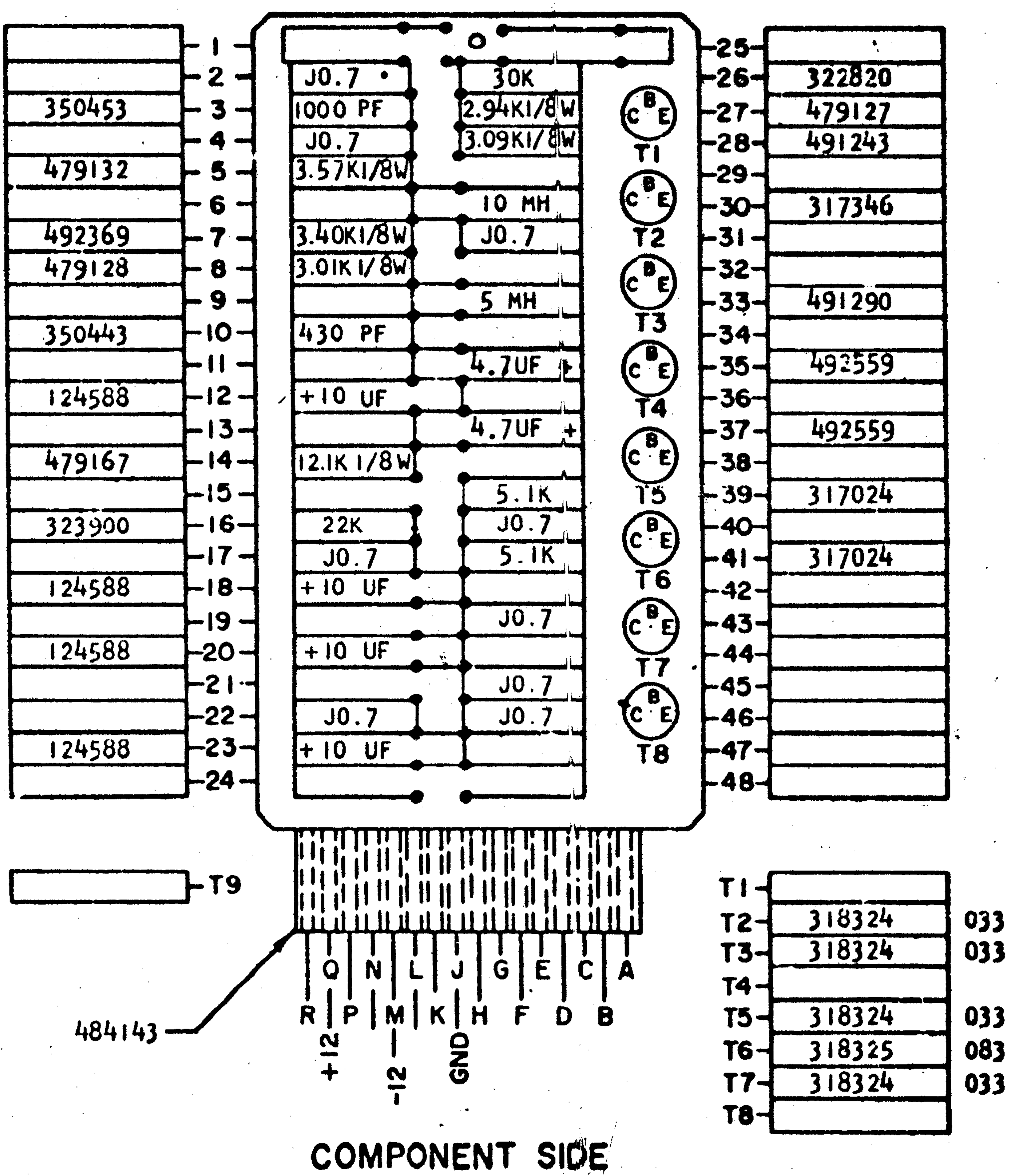
SENSE AMPLIFIER - INPUT FILTER AND SELECT GATE

MOUNT CARD ON ONE INCH CENTERS NOTE XVI



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892417
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED (AS NOTE XV)
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV
- XV ALL 1/8 WATT RESISTORS ARE ±1%
- XVI THE MAXIMUM HEIGHT THE COMPONENT MAY PROJECT ABOVE THE SURFACE OF THE CARD WILL BE .448



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT	12-13-60

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR-SENSE AMPL INPUT FILTER AND SELECT GATE		
DESIGN	VJK 10-26-60	TYPE	SMS
DETAIL	JL 11-4-60	SCALE	NONE
CHECK	TPA 11-5-60	DRAW	VE 12-15-60
APPRO	BES 12-20-60	CHECK	WJP 12-17-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
12-20-60	110939	NOTE XIV				2547-1415
2-17-61	111258	NOTE XIV				
4-18-61	111783	IWB				

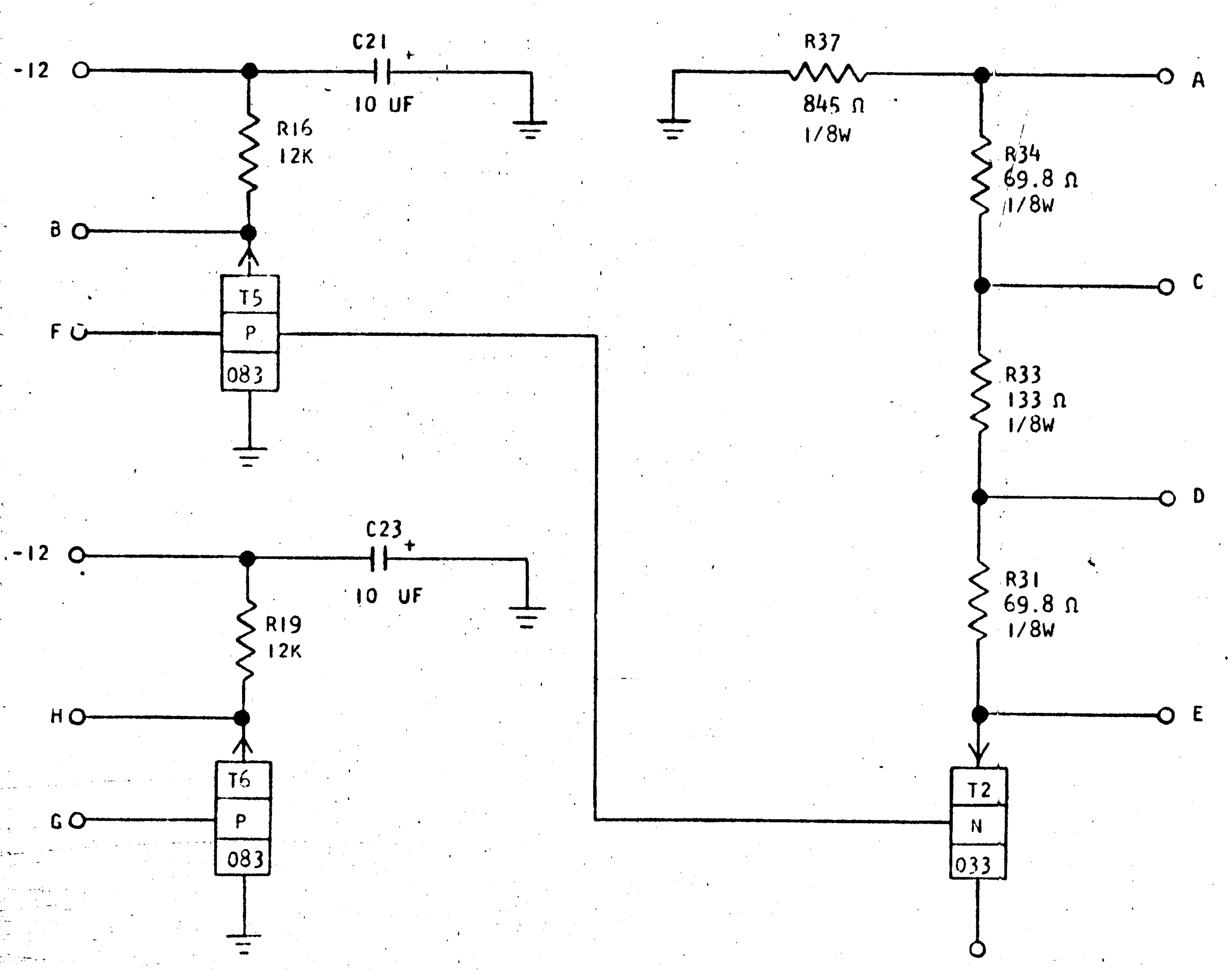
370417

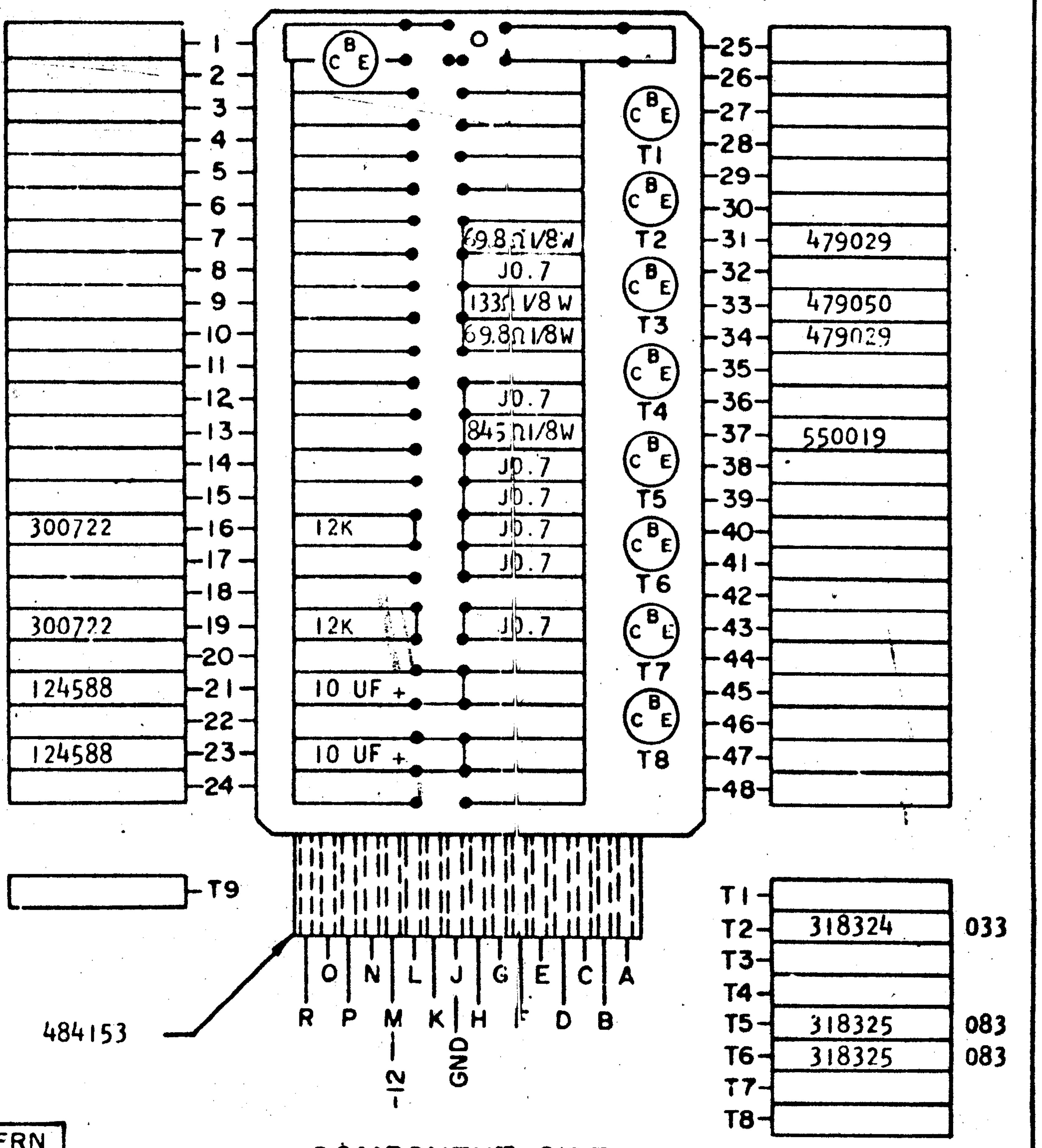
82-3987 8-24-60

370419

370419	YCA-
STANDARDS CODE	2-7045

SENSE AMPLIFIER-CLIPPING LEVEL CONTROL





COMPONENT SIDE

NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892419
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED (AS NOTE XIV)
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV ALL 1/8 WATT RESISTORS ARE ±1%
- XV

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT	12-13-60

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR- SENSE AMPLIFIER-CLIPPING LEVEL CONTROL				
DESIGN	VJK	11-1-60	TYPE	SMS1401	
DETAIL	ED	11-2-60	SCALE	NONE	
CHECK	TPA	11-15-60	DRAW	VE	12-16-60
APPR.	[illegible]		CHECK	[illegible]	[illegible]

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
12-20-60	110939	NOTE XV				2547-1419
3-2-61	111228	NOTE XV				
10-3-61	112721	NOTE XV				
12-7-61	D113129	IWB				

370419

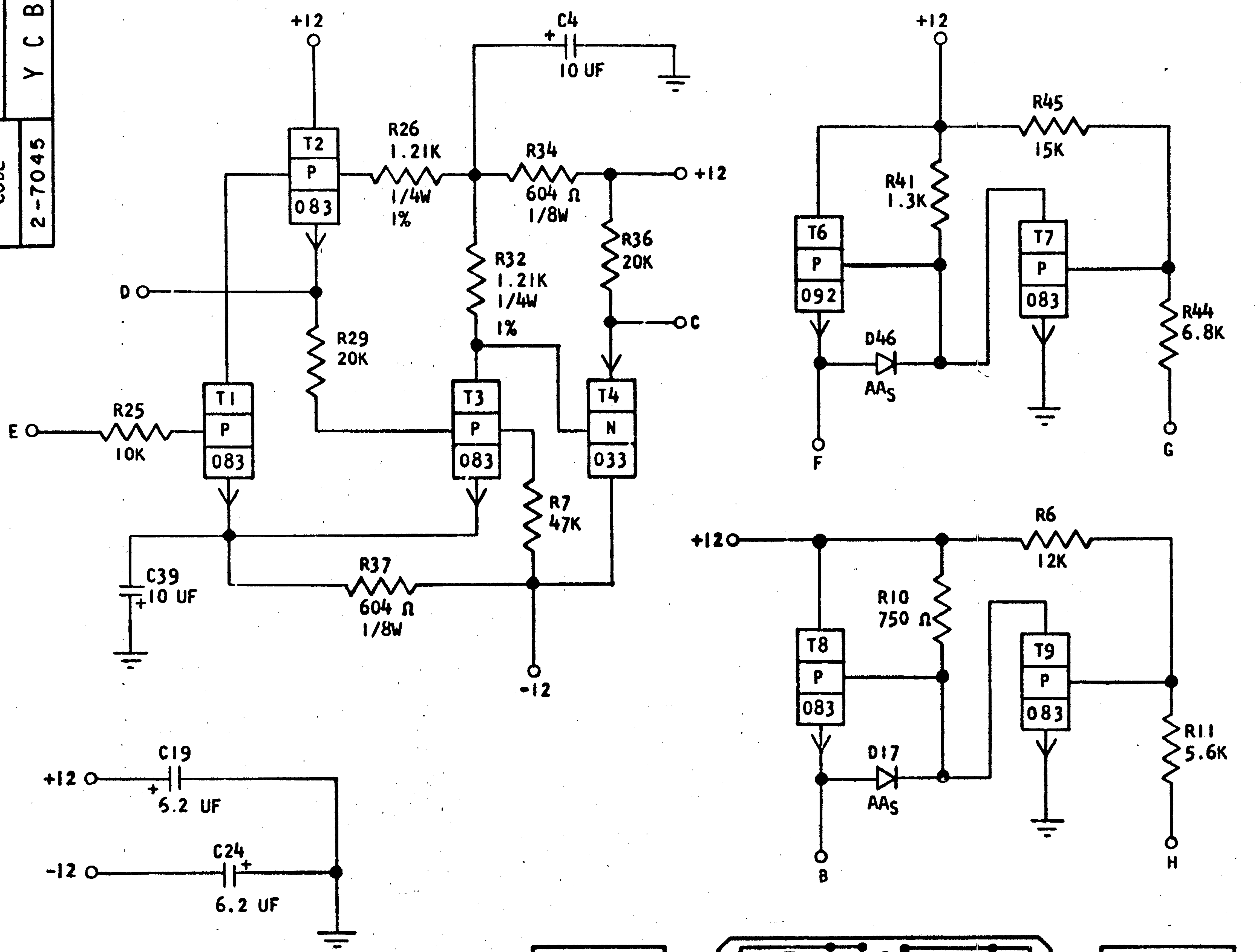
82-3987 8-24-60

370420 YCB-

STANDARDS CODE 2-7045

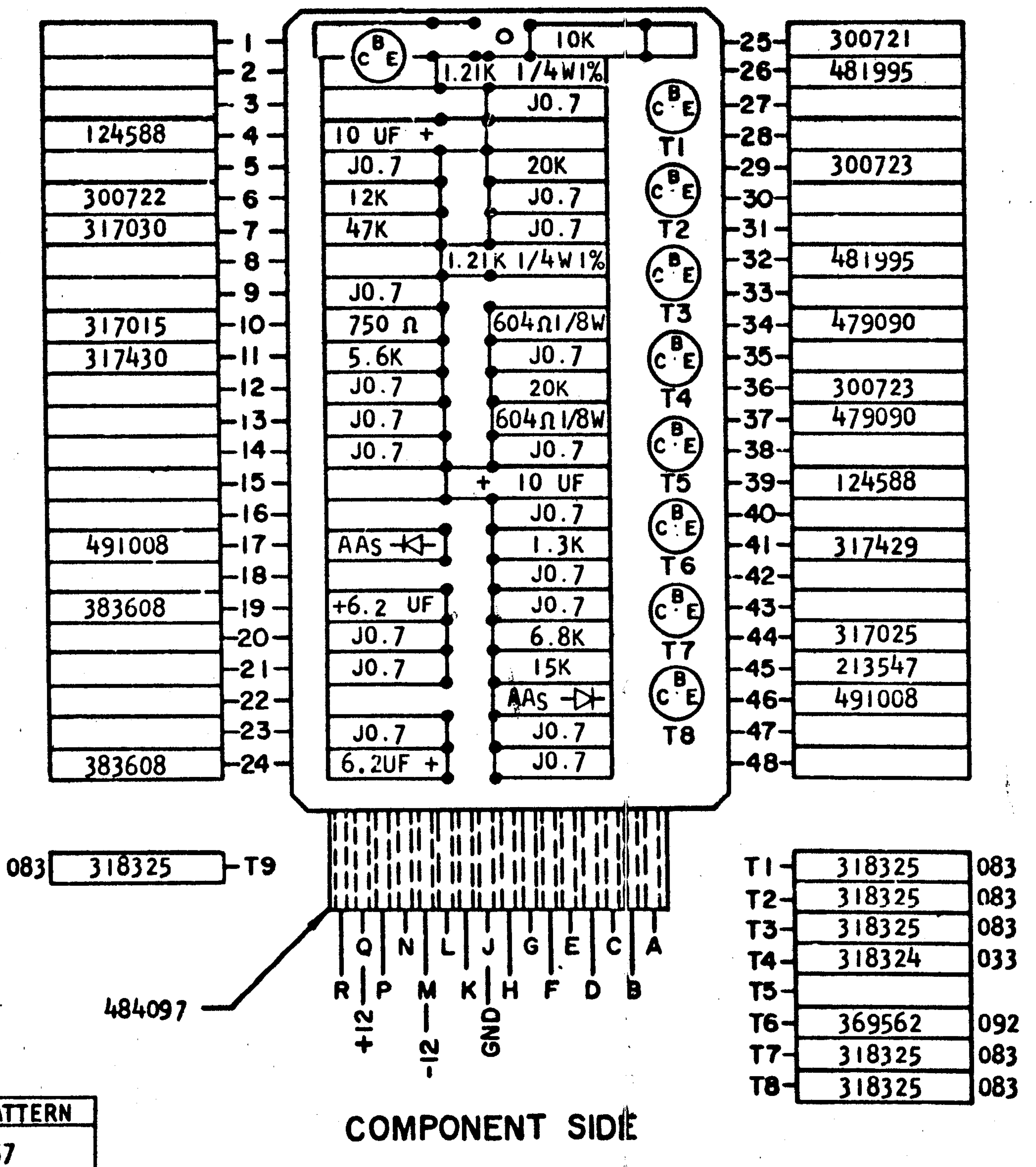
370420

SENSE AMPLIFIER-SELECT GATE, READ GATE AND BAND PASS CTRL



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892420
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED(AS NOTE XV)
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV
- XV ALL 1/8 WATT RESISTORS ARE ±1%
- XVI REFER TO FIELD SERVICE DRAWING PART NUMBER 729950 WHEN MAKING A CHANGE TO THIS CIRCUIT



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT	12-13-60

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR-SEN AM-SEL				
GT, RD GT AND BAND PASS CTRL					
DESIGN	TPA	11-16-60	TYPE	SMS	
DETAIL	JL	11-17-60	SCALE	NONE	
CHECK	TPA	11-17-60	DRAW	VE	12-17-60
APPRO	BES	12-20-60	CHECK	[illegible]	[illegible]

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
12-20-60	110942	NOTE XIV			
4-18-61	111783	IWB			
7-14-61	D111783A	IWB			
11-7-62	114364	MDL			

DEVELOPMENT NO.
2547-1420

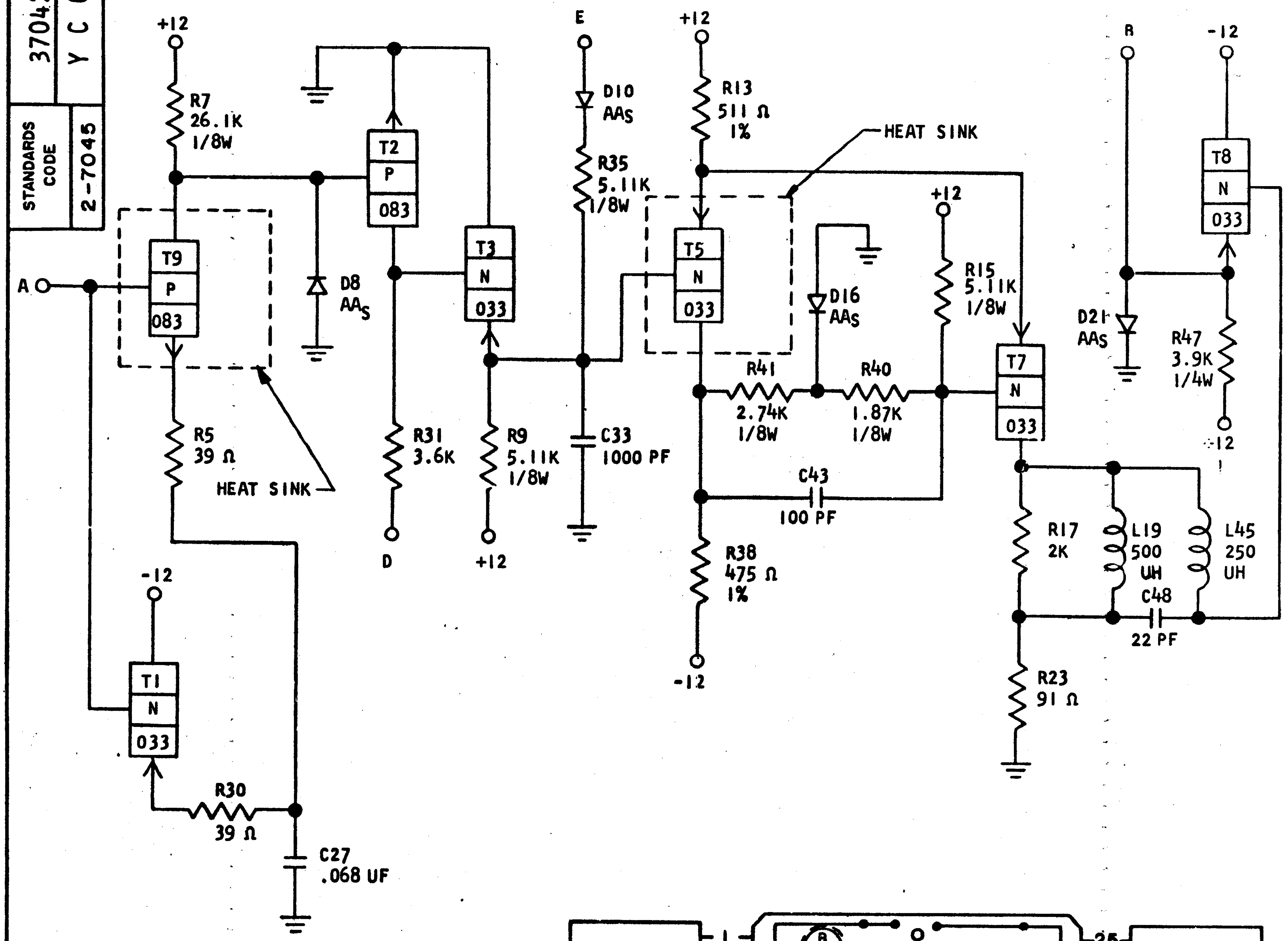
370420

82-3987 8-24-60

CG

370421	YCC-
STANDARDS CODE	2-7045

PEAK DETECTOR, INTEGRATOR & V.M. DRIVER



NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892421

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED (AS NOTE XVI)

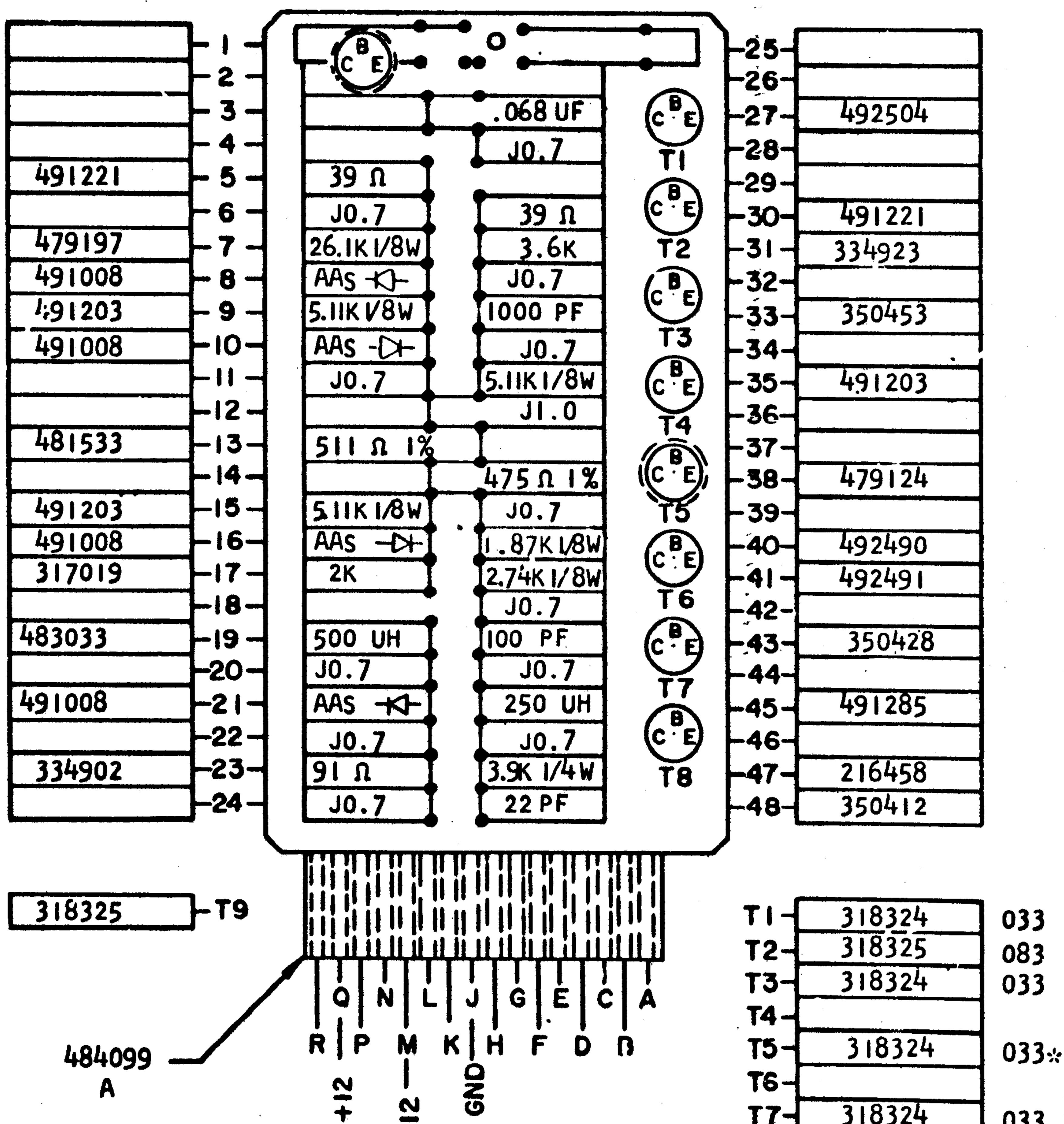
XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

* **XIV** HEAT SINKS 492434 OR 492435 TO BE SELECTED AS REQUIRED.

XV

XVI ALL 1/8 WATT RESISTORS ARE ±1%

XVII REFER TO FIELD SERVICE DRAWING PART NUMBER 729951 WHEN MAKING A CHANGE TO THIS CIRCUIT



Pin	Part
1	
2	
3	
4	
5	491221
6	
7	479197
8	491008
9	491203
10	491008
11	
12	
13	481533
14	
15	491203
16	491008
17	317019
18	
19	483033
20	
21	491008
22	
23	334902
24	

Pin	Part
25	
26	
27	492504
28	
29	
30	491221
31	334923
32	
33	350453
34	
35	491203
36	
37	
38	479124
39	
40	492490
41	492491
42	
43	350428
44	
45	491285
46	
47	216458
48	350412

* 083 | 318325 | T9

T1	318324	033
T2	318325	083
T3	318324	033
T4		
T5	318324	033*
T6		
T7	318324	033
T8	318324	033

COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT	12-13-60

HOLE PATTERN
493476

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR- PEAK DETECTOR INTEGRATOR & V.M. DRIVER				
DESIGN	ED	11-29-60	TYPE	SMS 1410	
DETAIL	ED	11-29-60	SCALE	NONE	
CHECK	TPA	12-1-60	DRAW	VE	12-16-60
APPRO	BES	12-20-60	CHECK	WWP	12-17-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
12-20-60	110942	NOTE XV				2547-1421
10-2-61	112694	NOTE XV				
2-24-64	D119304	GWS				

370421

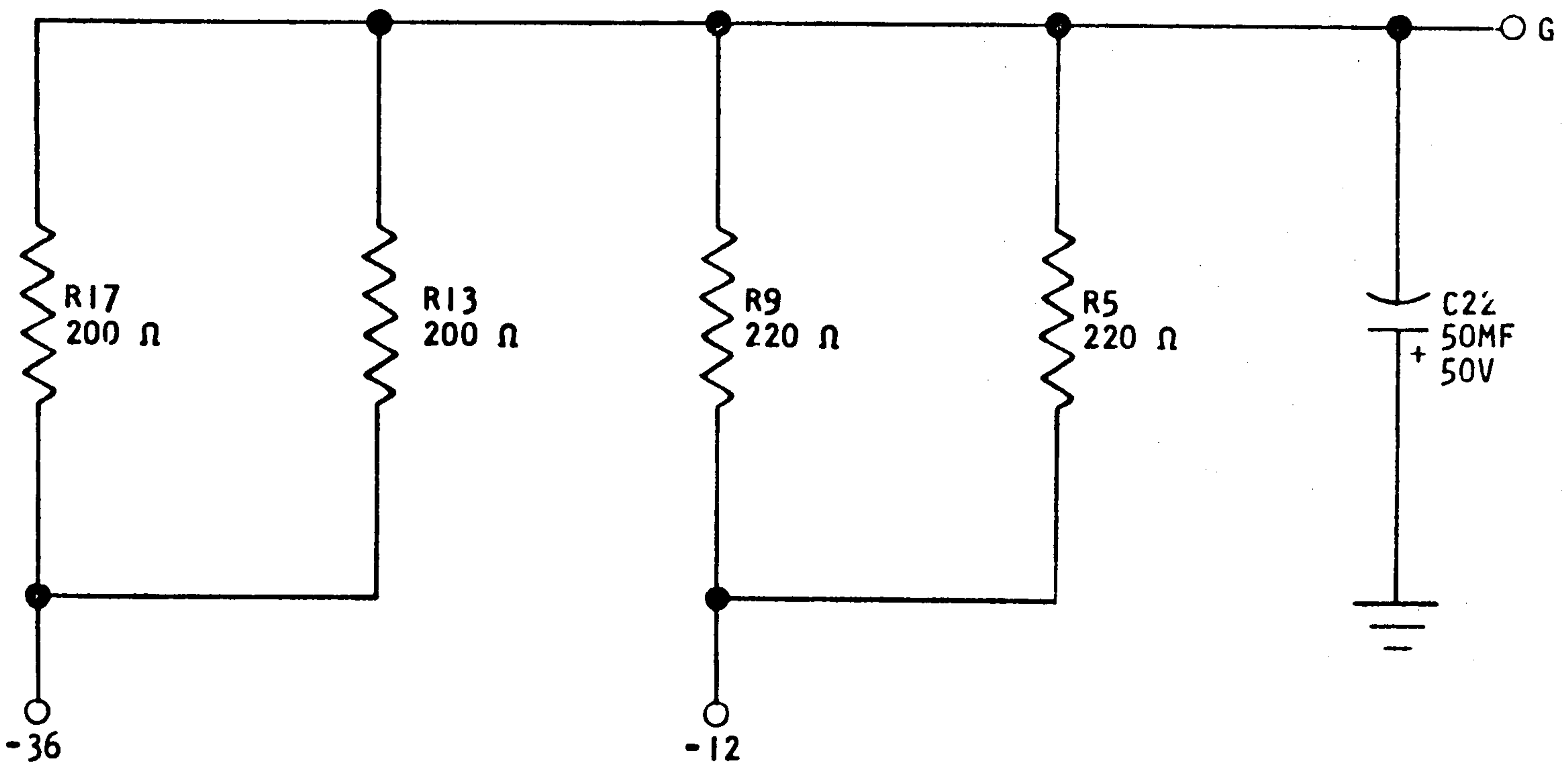
82-3987 8-24-60

RK

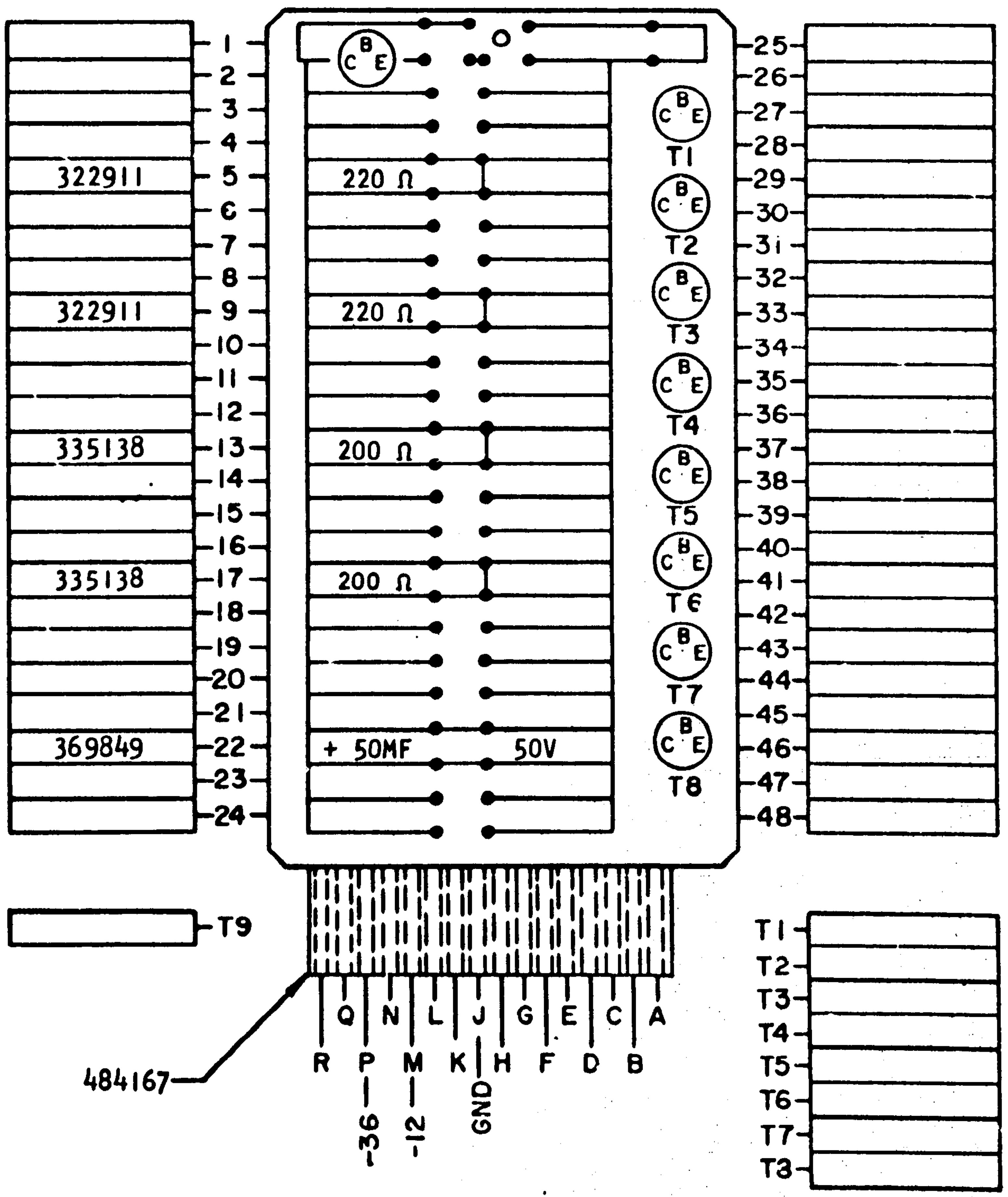
370431	A G E -
STANDARDS CODE	2-7045

370431

VOLTAGE DIVIDER
MOUNT CARD ON INCH CENTERS NOTE XIII



NOTES
- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892431
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 2 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII THE MAXIMUM HEIGHT THAT COMPONENTS MAY PROJECT ABOVE THE SURFACE OF THE CARD WILL BE .850



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
J. J. B.	12-16-60

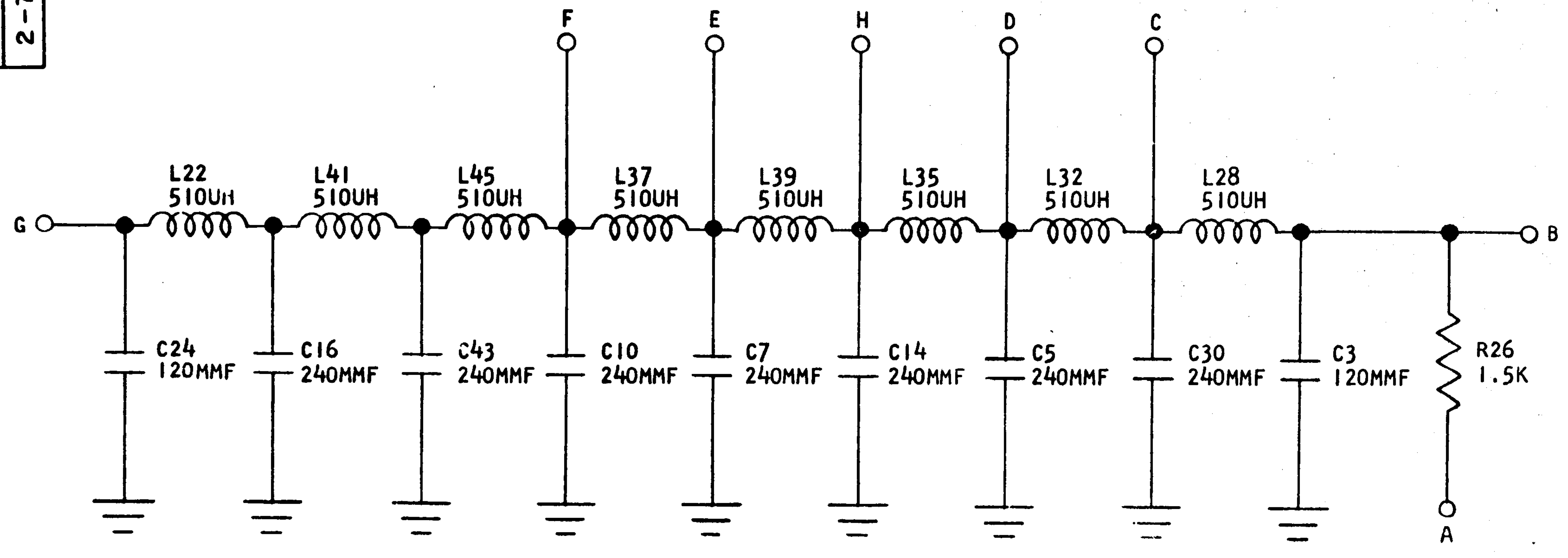
INTERNATIONAL BUSINESS MACHINES CORP.						DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.	
NAME	CARD ASM TSTR-					1-6-61	110960	JWB				3351-X-0408A	370431
VOLTAGE DIVIDER													
DESIGN	WO	9-23-60	TYPE	SMS 1405									
DETAIL	IC	12-13-60	SCALE	NONE									
CHECK	[illegible]	12-29-[illegible]	DRAW	MDE	12-16-60								
APPRO	[illegible]	1-5-61	CHECK	CLW	12-28-60								

82-3987 8-24-60

370433	A G D -
STANDARDS CODE	2-7045

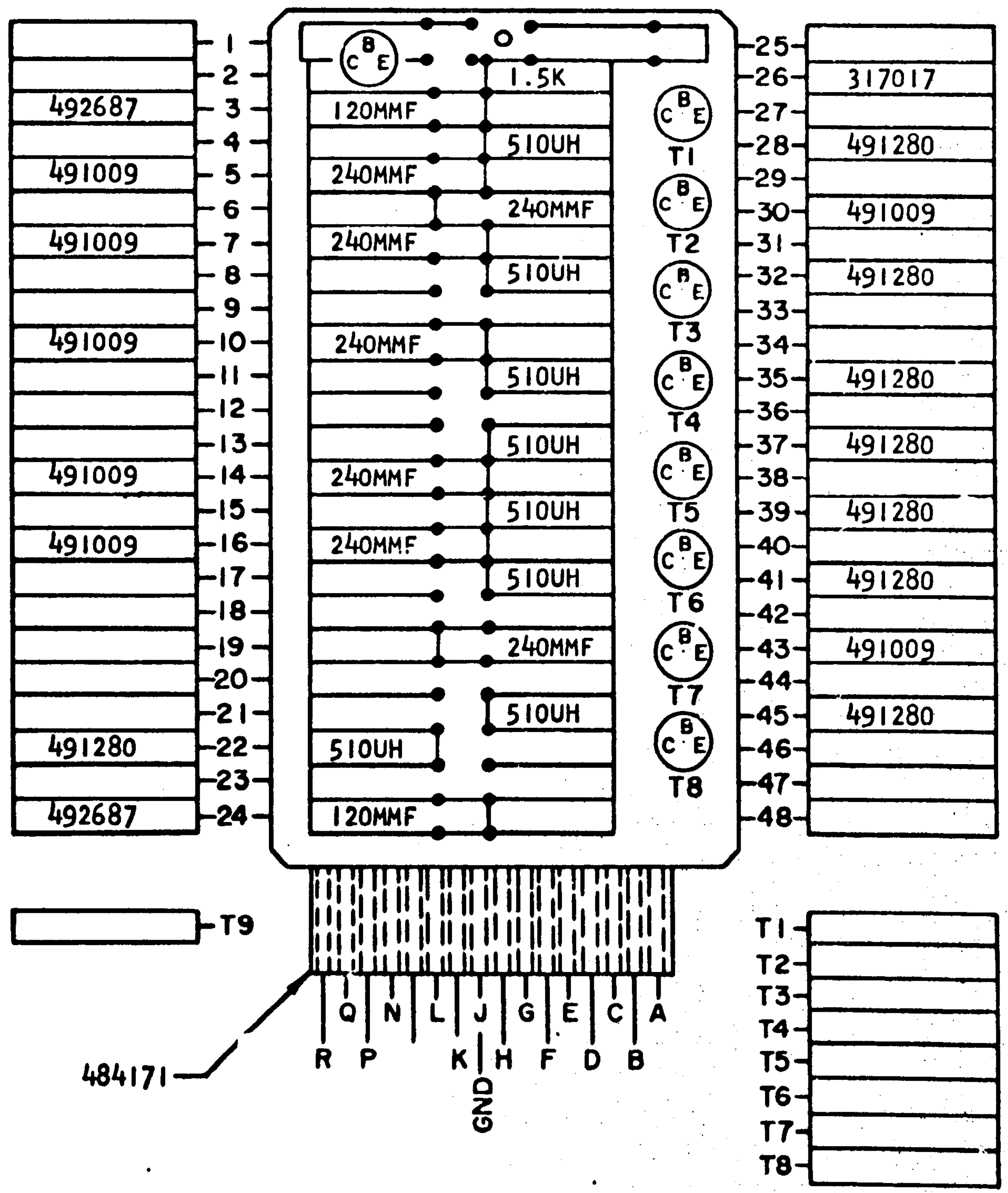
370433

DELAY LINE CARD 2.8 USEC



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892433
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
RCL JJB	12-20-60

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- DELAY LINE CARD 2.8 USEC				
DESIGN	WO	12-16-60	TYPE	SMS 1405	
DFTAIL	WO	12-16-60	SCALE	NONE	
CHECK	G.S.H.	12-29-60	DRAW	MDE	12-28-60
APPRO	A C	1-5-61	CHECK	CLW	12-28-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
1-6-61	110961	JWB				3351-X-0362A

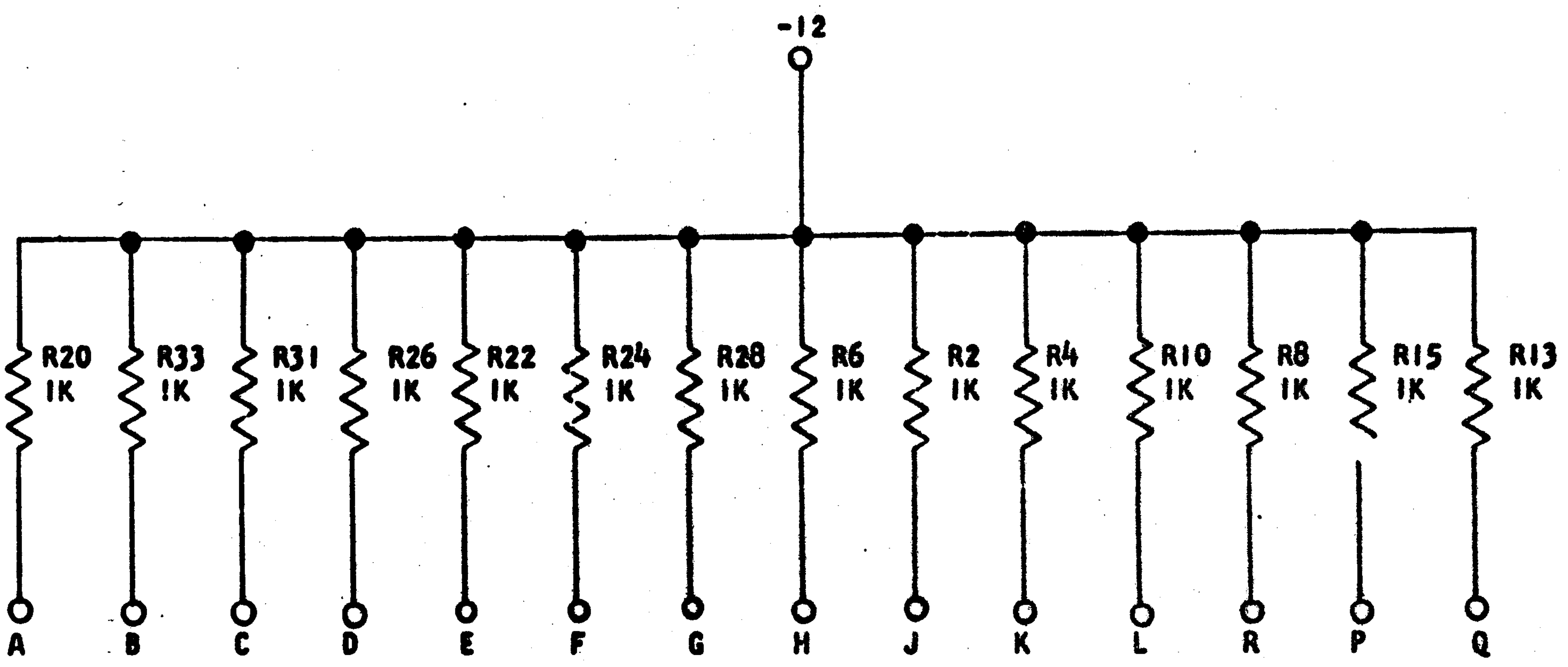
370433

82-3987 8-24-60

370449

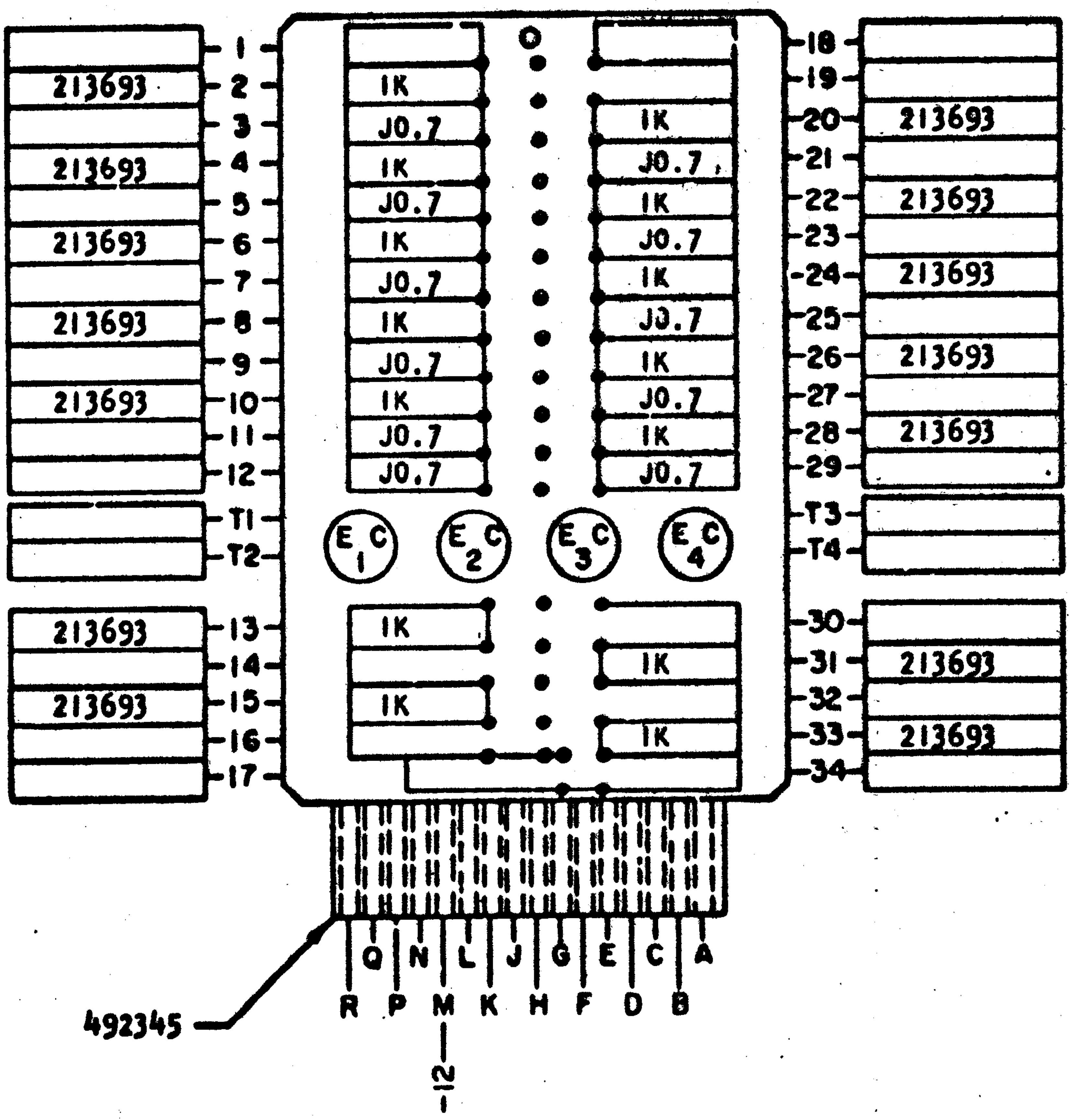
LOAD RESISTOR CARD, 1K, 1/2W

370449	Y C E -
STANDARDS CODE	2-7045



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 891247
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT	1-11-61

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR- LOAD RESISTOR CARD, 1K, 1/2W				
DESIGN	ED	12-5-60	TYPE	SMS 763Y	
DETAIL	ED	12-5-60	SCALE	NONE	
CHECK	TPA	12-6-60	DRAW	VE	1-17-61
APPRO	CHS	1-19-61	CHECK	Hoa	1-18-61

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
1-19-61	111058	JWB				2547-1404

370449

82- 3977 11-1-60

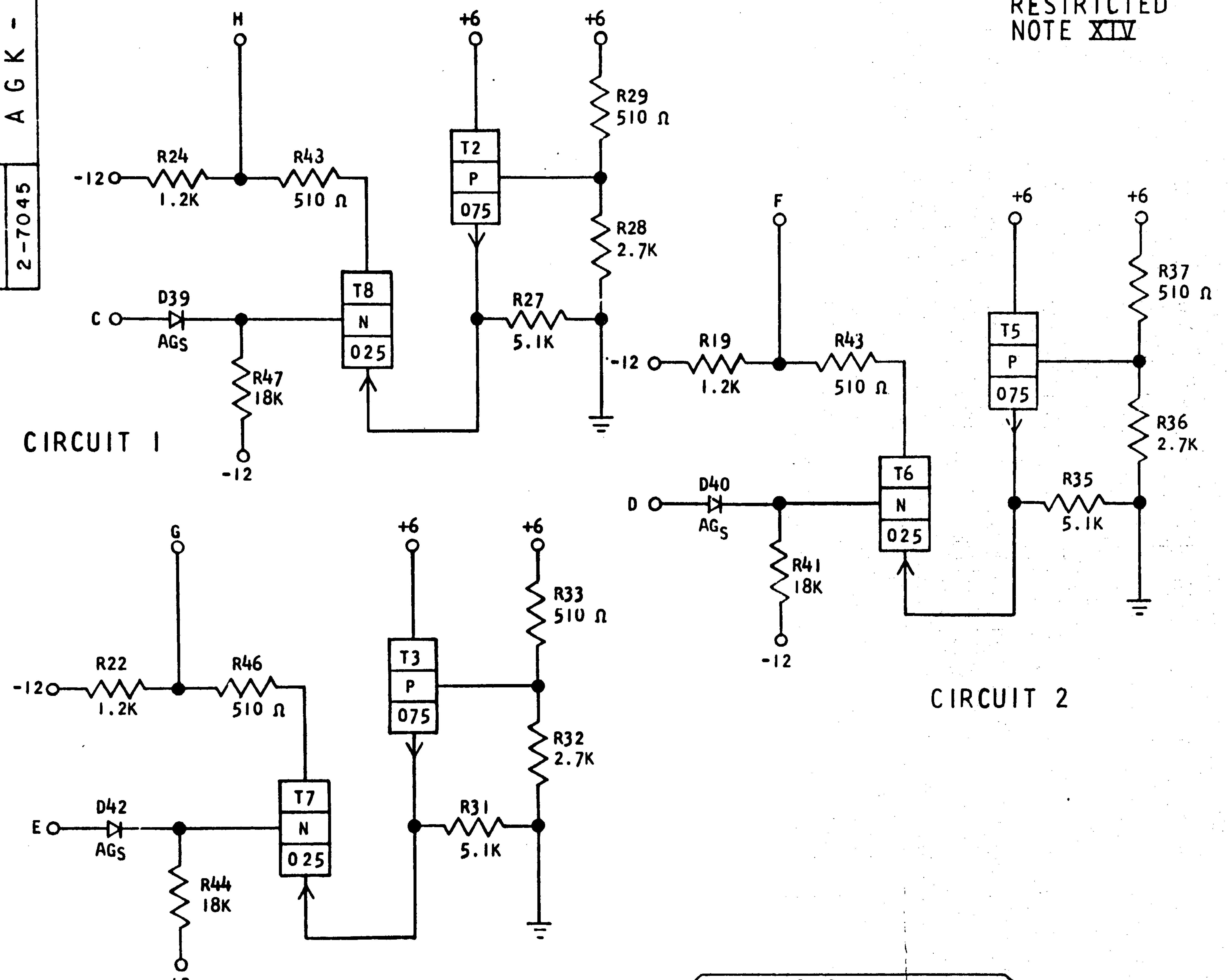
370454 AGK-

STANDARDS CODE 2-7045

1405 FILE SPECIAL CARD SAFETY

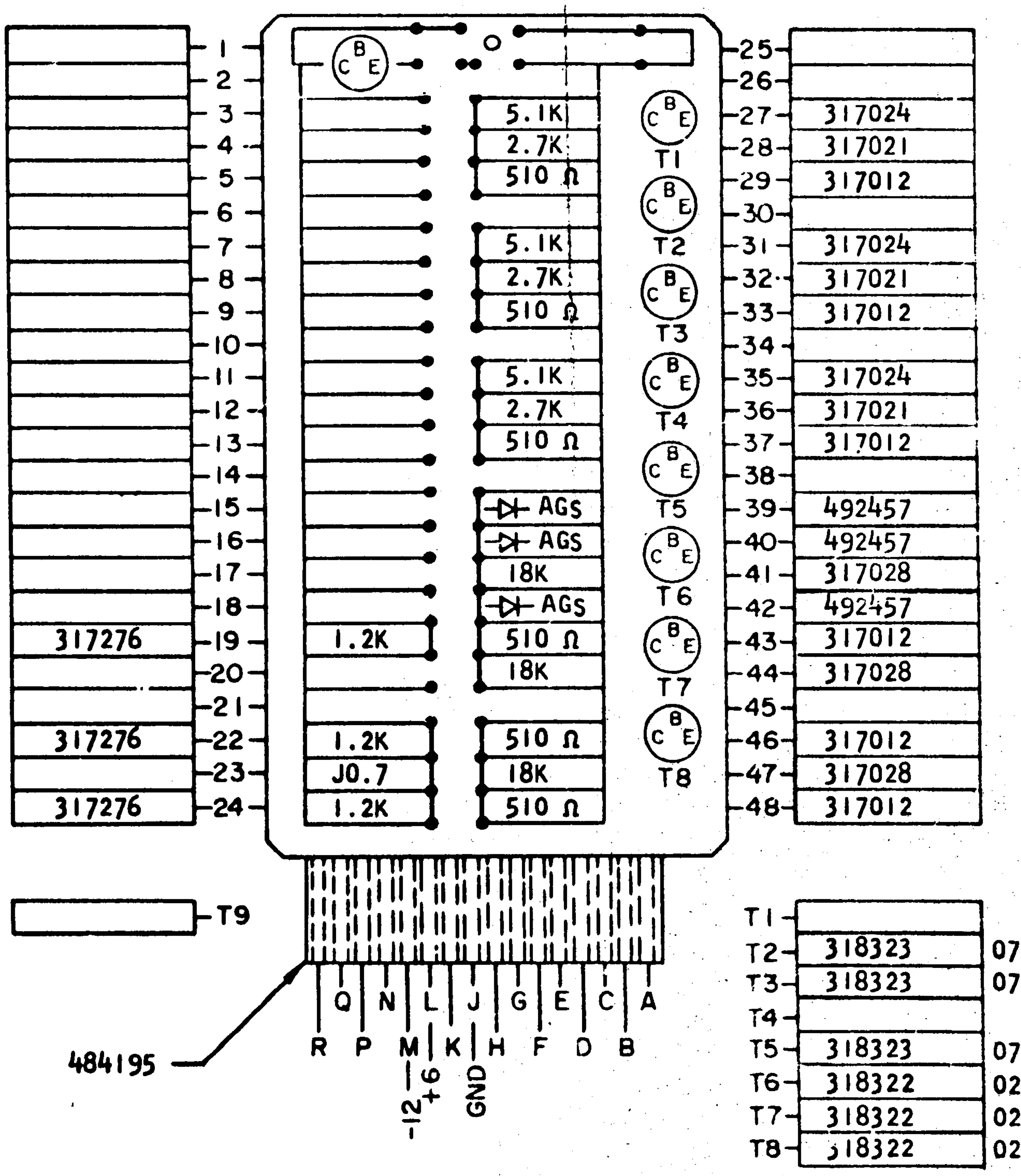
370454

RESTRICTED
NOTE XIV



CIRCUIT 3

NOTES
- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892454
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV RESTRICTED TO 1405 USAGE ONLY



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
RCL JJB	1-12-61

INTERNATIONAL BUSINESS MACHINES CORP.						
NAME	CARD ASM TSTR - 1405 FILE SPECIAL CARD SAFETY					
DESIGN	RT	9-14-60	TYPE	SMS 1405		
DETAIL	IC	9-14-60	SCALE	NONE		
CHECK	A.P.	1-26-61	DRAW	VE	1-20-61	
APPRO	CHS	1- -61	CHECK	JFM	1-23-61	

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
1-30-61	111063	NOTE XIV				3351-X-0374

370454

82-3987 8-24-60

AD

370455

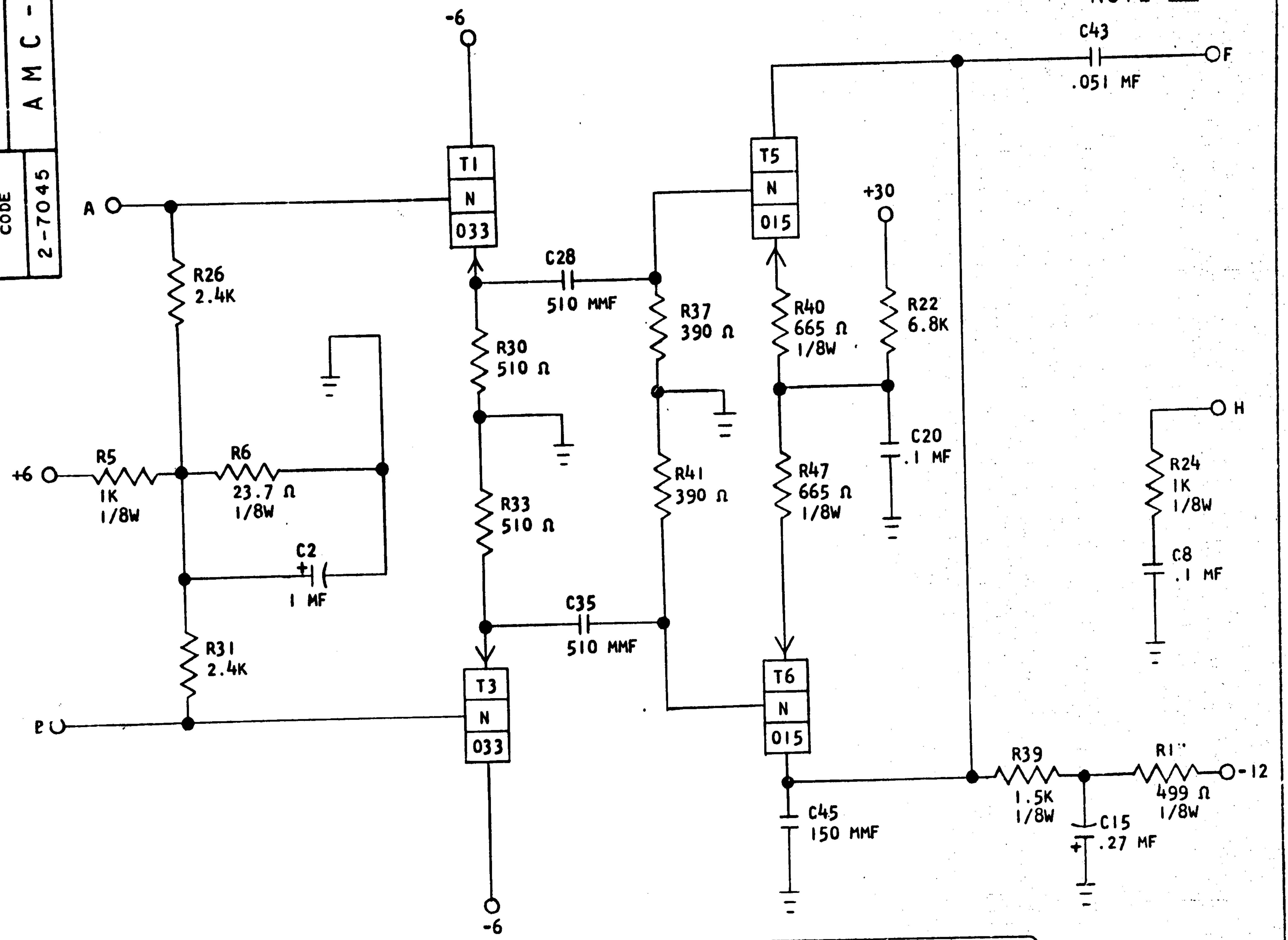
370455

AMC -

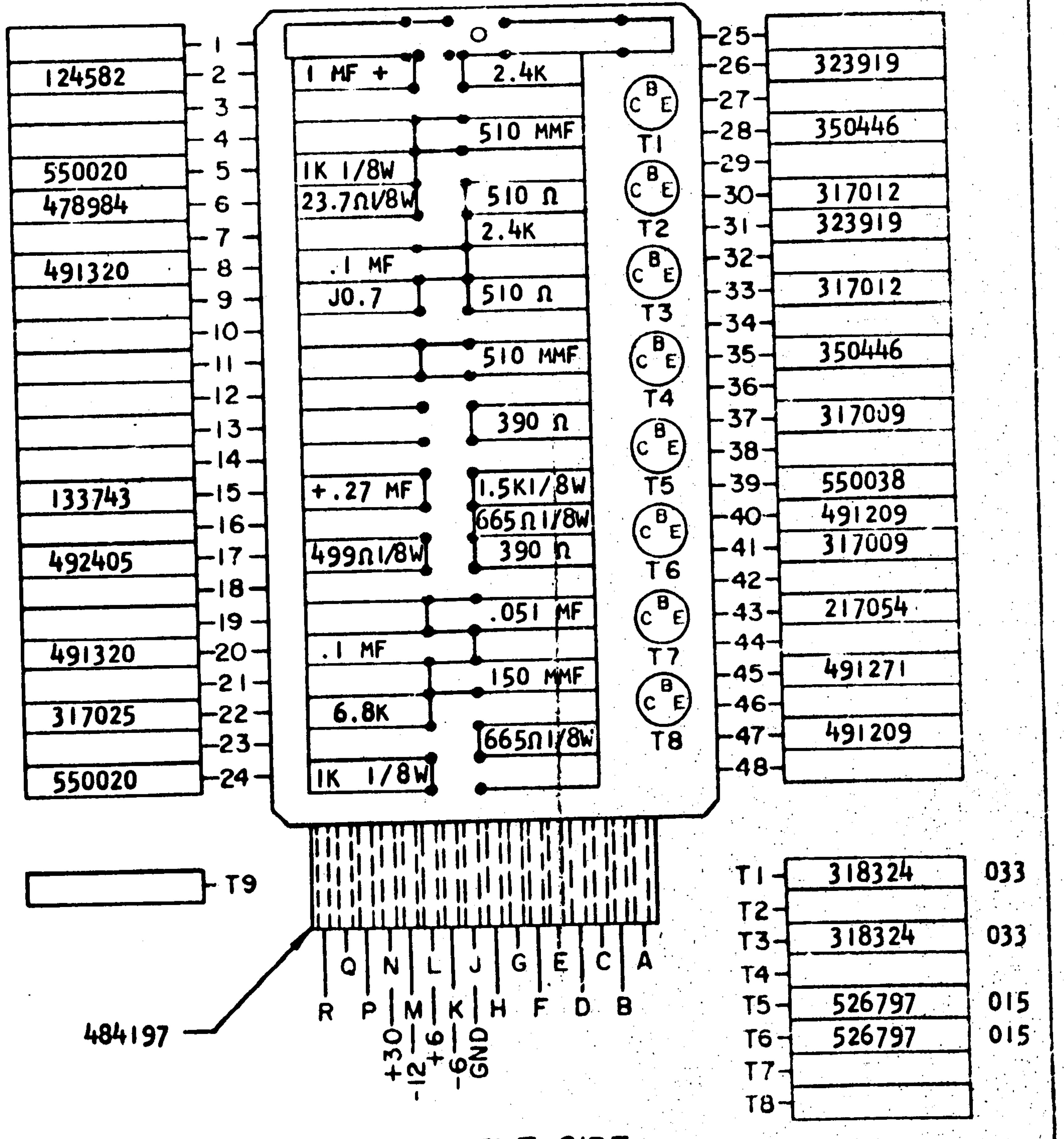
STANDARDS CODE 2-7045

CLIPPER DIFFERENTIATE

RESTRICTED
NOTE XV



NOTES
- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892455
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED (AS NOTE XIV)
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV ALL 1/8 WATT RESISTORS ARE ±1%
- XV RESTRICTED TO 1405 USAGE ONLY



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
RCL JJB	1-13-61

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- CLIPPER DIFFERENTIATE			
DESIGN	HK	9-14-60	TYPE	SMS 1405
DETAIL	WO	11-10-60	SCALE	NONE
CHECK	AY	1-25-61	DRAW	VE 1-20-61
APPRO	CHS	1-30-61	CHECK	GEM 1-23-61

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
1-31-61	111064	NOTE XIV				3351-X-0366

370455

82-3987 8-24-60

370456

RESTRICTED
NOTE XV

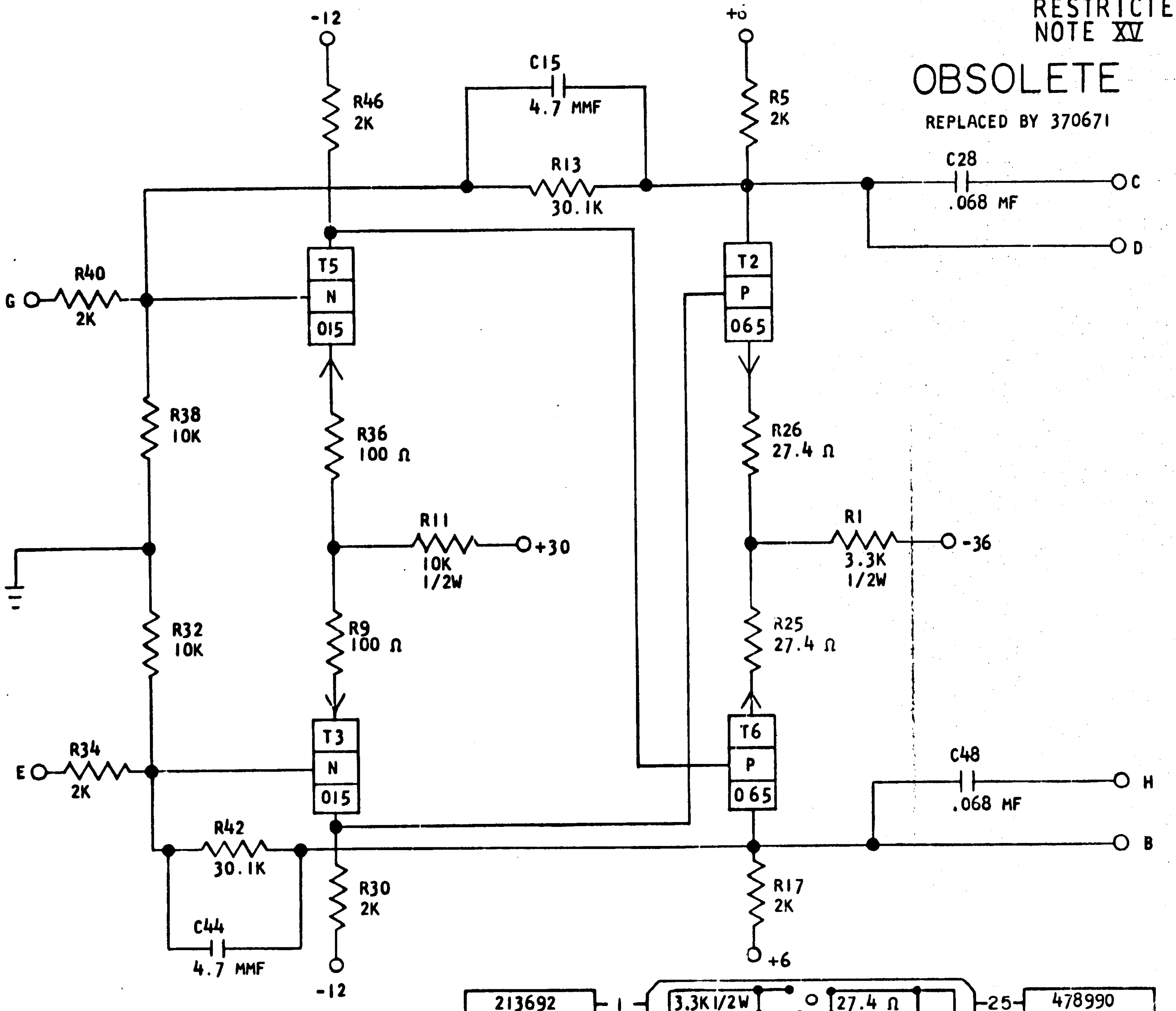
OBSOLETE

REPLACED BY 370671

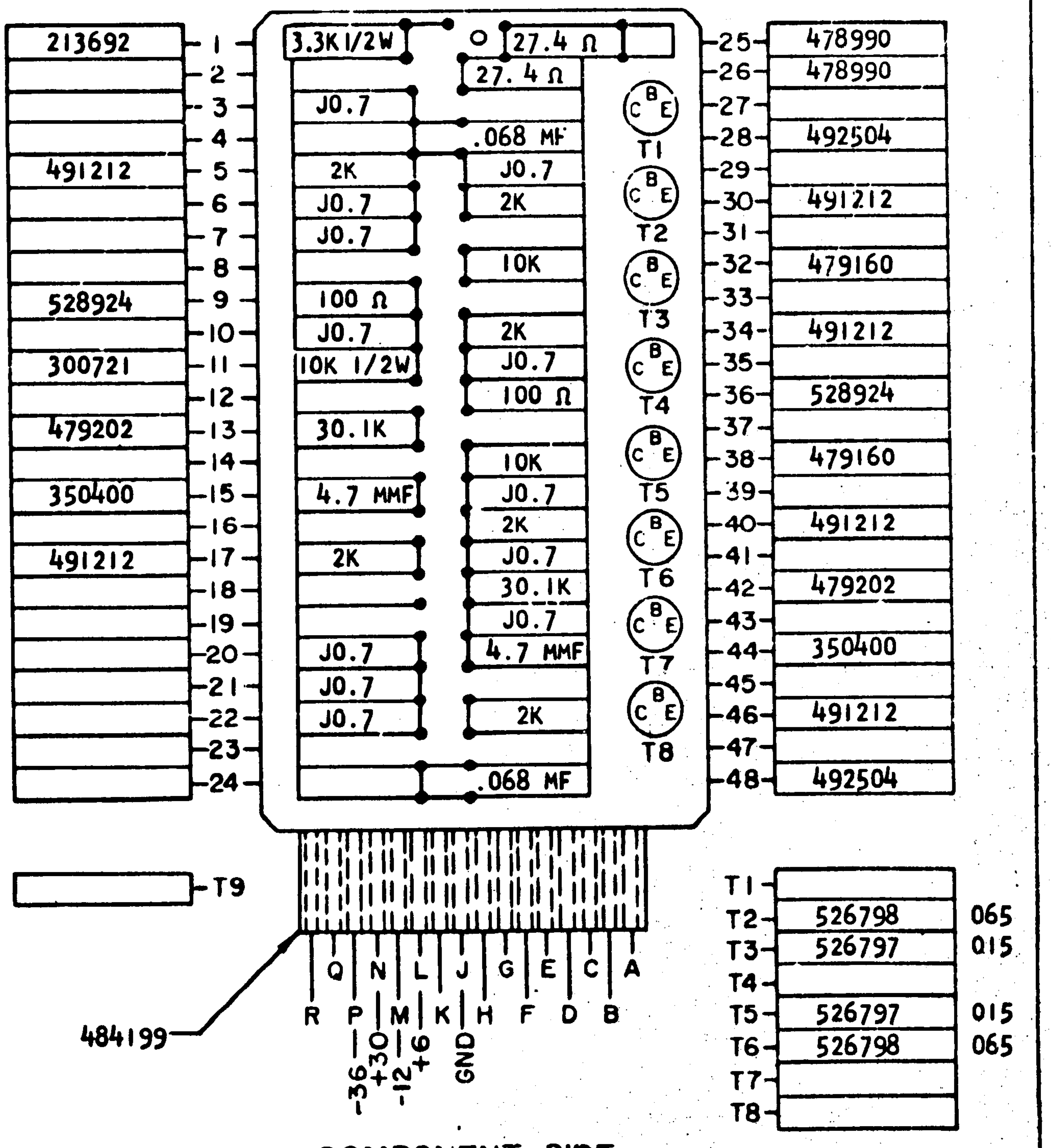
370456
AGY-

STANDARDS CODE 2-7045

LINEAR AMPLIFIER



NOTES
- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892456
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/8 WATT AND ±1% UNLESS OTHERWISE NOTED (AS NOTE XIV)
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV ALL 1/2 WATT RESISTORS ARE ±5%
- XV RESTRICTED TO 1405 USAGE ONLY



1	213692
2	
3	
4	
5	491212
6	
7	
8	
9	528924
10	
11	300721
12	
13	479202
14	
15	350400
16	
17	491212
18	
19	
20	
21	
22	
23	
24	

25	478990
26	478990
27	
28	492504
29	
30	491212
31	
32	479160
33	
34	491212
35	
36	528924
37	
38	479160
39	
40	491212
41	
42	479202
43	
44	350400
45	
46	491212
47	
48	492504

T1		
T2	526798	065
T3	526797	015
T4		
T5	526797	015
T6	526798	065
T7		
T8		

COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
RCL JJB	1-13-61

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR-LINEAR AMPLIFIER			
DESIGN	HK	9-21-60	TYPE	SMS 1405
DETAIL	WO	11-9-60	SCALE	NONE
CHECK	AY	1-25-61	DRAW	VE 1-20-61
APPRO	CHS	1-30-61	CHECK	WWP 1-23-61

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
1-31-61	111064	NOTE XV			
6-11-62	113939	NOTE XV			

DEVELOPMENT NO.
3351-X-0396

370456

32-3087 8-24-60

5

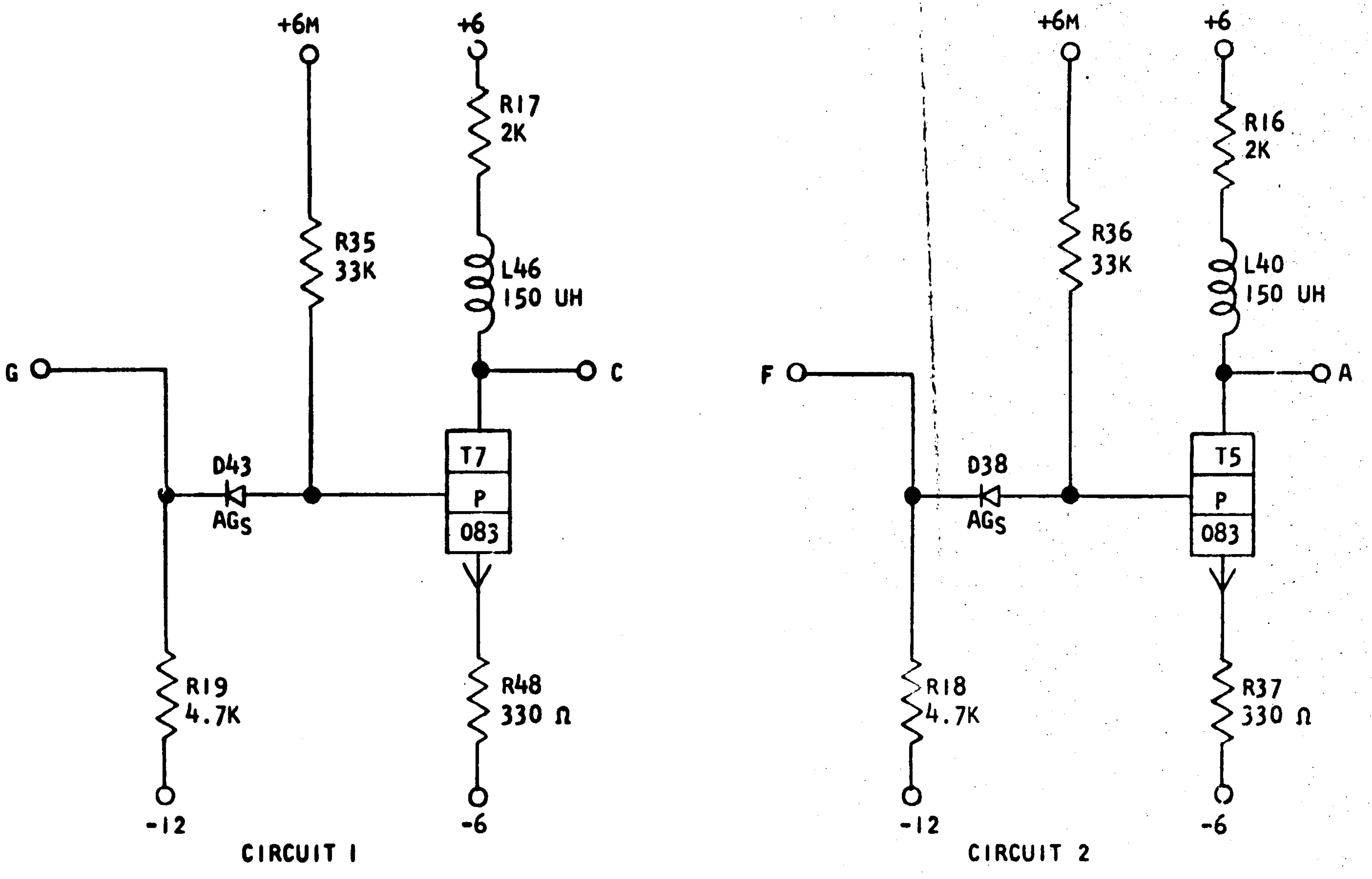
370457 AGJ-

STANDARDS CODE 2-7045

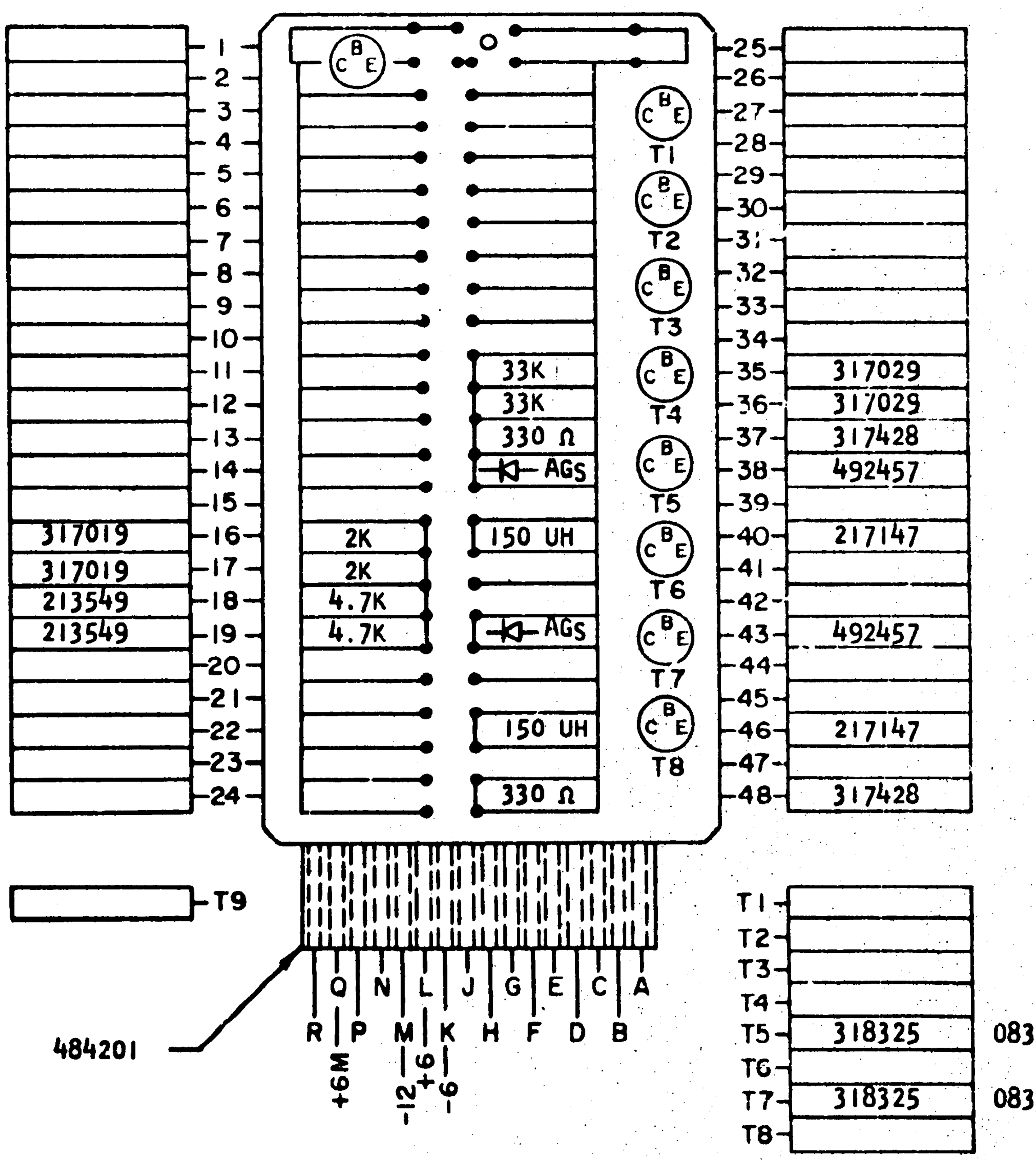
370457

RESTRICTED
NOTE XIII

SECTOR PULSE AMPLIFIER



NOTES
- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892457
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII RESTRICTED TO 1405 USAGE ONLY



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
RCL JJB	1-12-61

INTERNATIONAL BUSINESS MACHINES CORP.					DATE	CHANGE NO.	APPROVAL	DATE	CHANGE · NO.	APPROVAL	DEVELOPMENT NO.
NAME	CARD ASM TSTR-				1-30-61	111055	NOTE XIII				3351-X-0370
SECTOR PULSE AMPLIFIER											
DESIGN	WO	9-15-60	TYPE	SMS 1405							
DETAIL	WO	9-16 60	SCALE	NONE							
CHECK	A.P.	1-24-61	DRAW	VE 1-19-61							
APPRO	CHS	1-30-61	CHECK	JFM 1-23-61							

370457

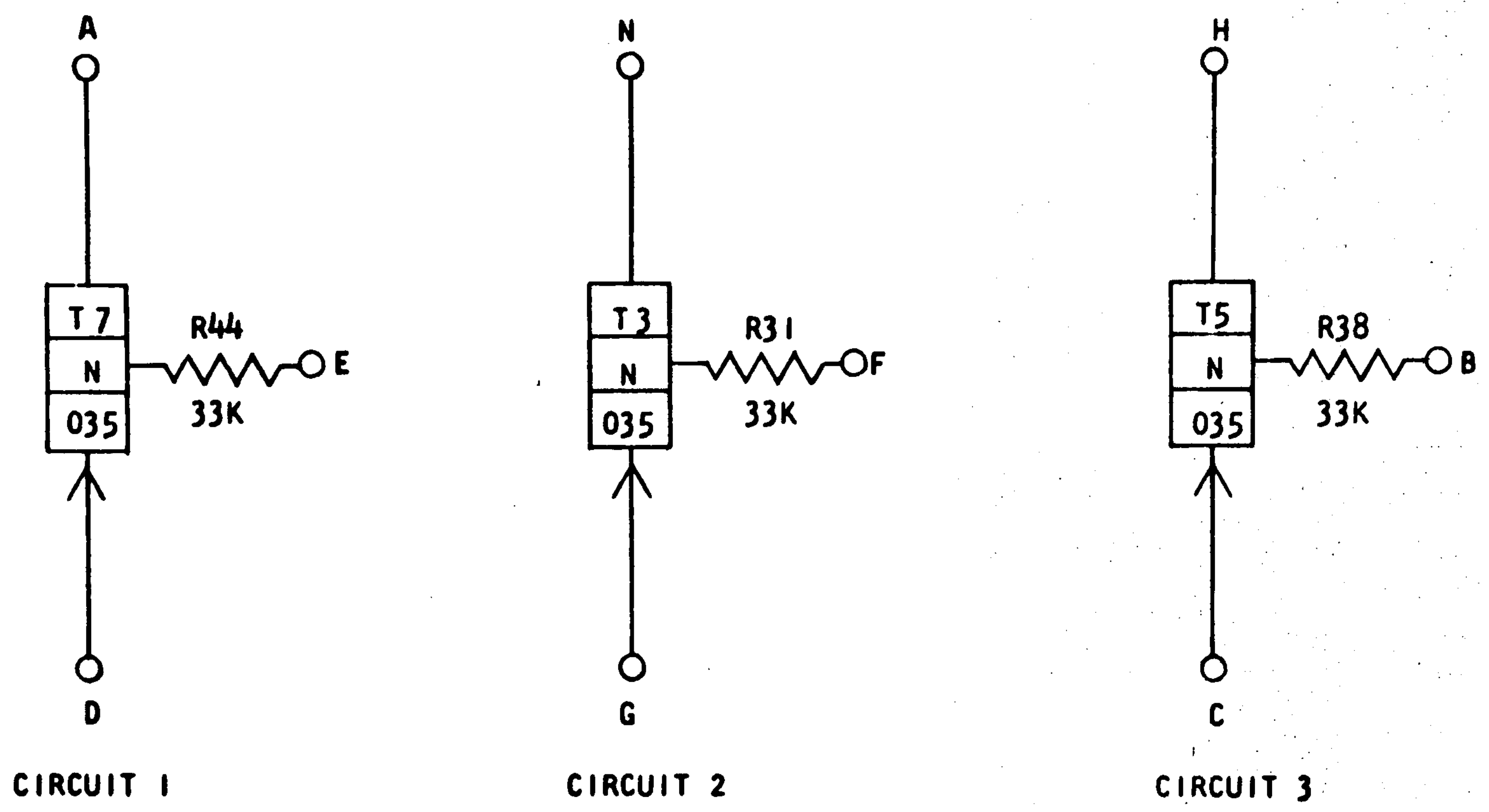
82-3987 8-24-60

370458 | A G L -

STANDARDS CODE 2-7045

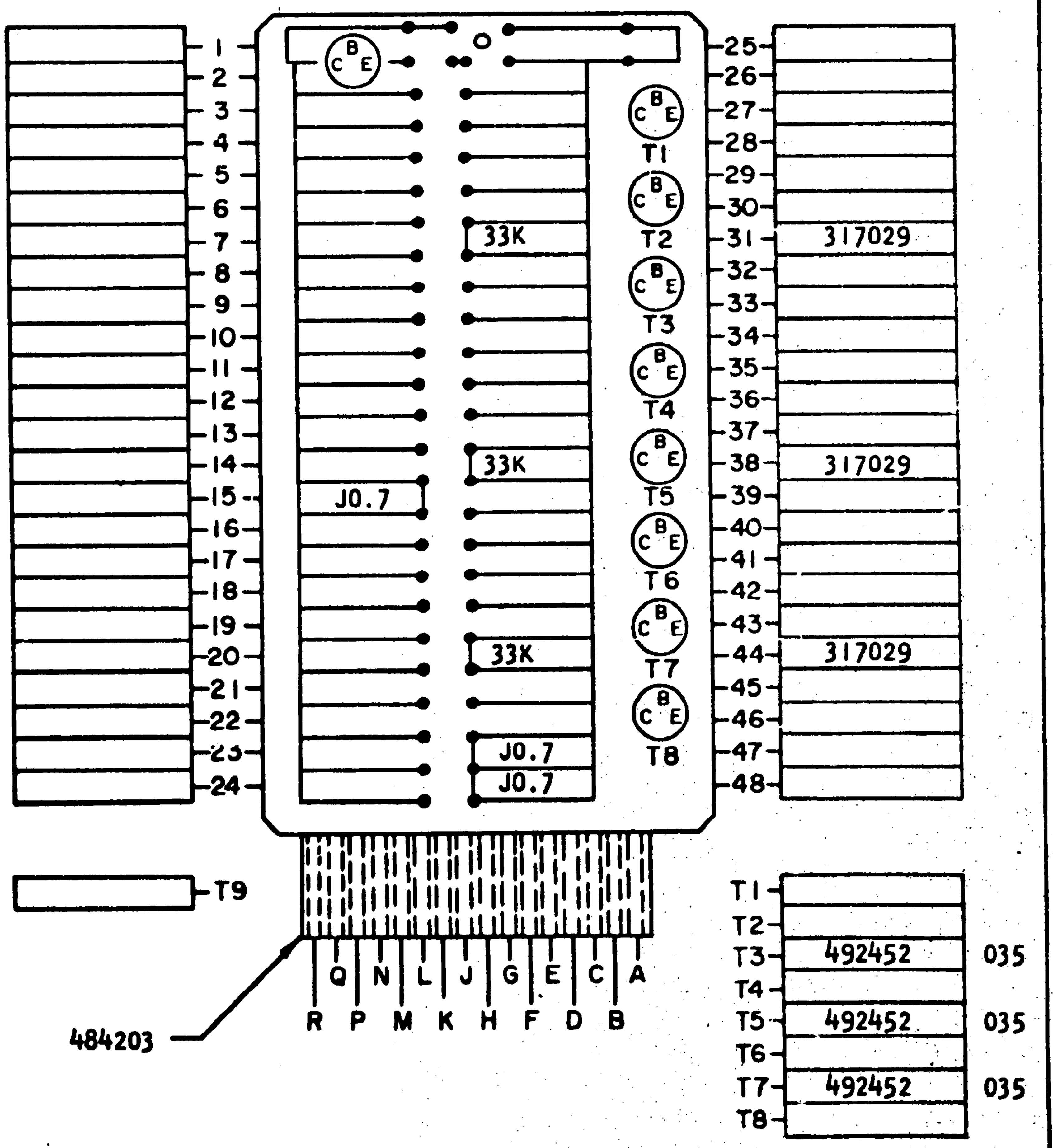
370458
RESTRICTED
NOTE XIV

SECTOR PULSE GATE



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892458
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV RESTRICTED TO 1405 USAGE ONLY



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
RCL JJB	1-13-61

INTERNATIONAL BUSINESS MACHINES CORP.			
NAME	CARD ASM TSTR - SECTOR PULSE GATE		
DESIGN	HK	10-24-60	TYPE SMS 1405
DETAIL	HVDH	10-25-60	SCALE NONE
CHECK	A.I.	1-24-61	DRAW VE 1-19-61
APPRO	CHS	1-30-61	CHECK 1-23-61

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
1-30-61	111055	NOTE XIV				3351-X-0380

370458

82-3987 8-24-60

5

W.L.

370465

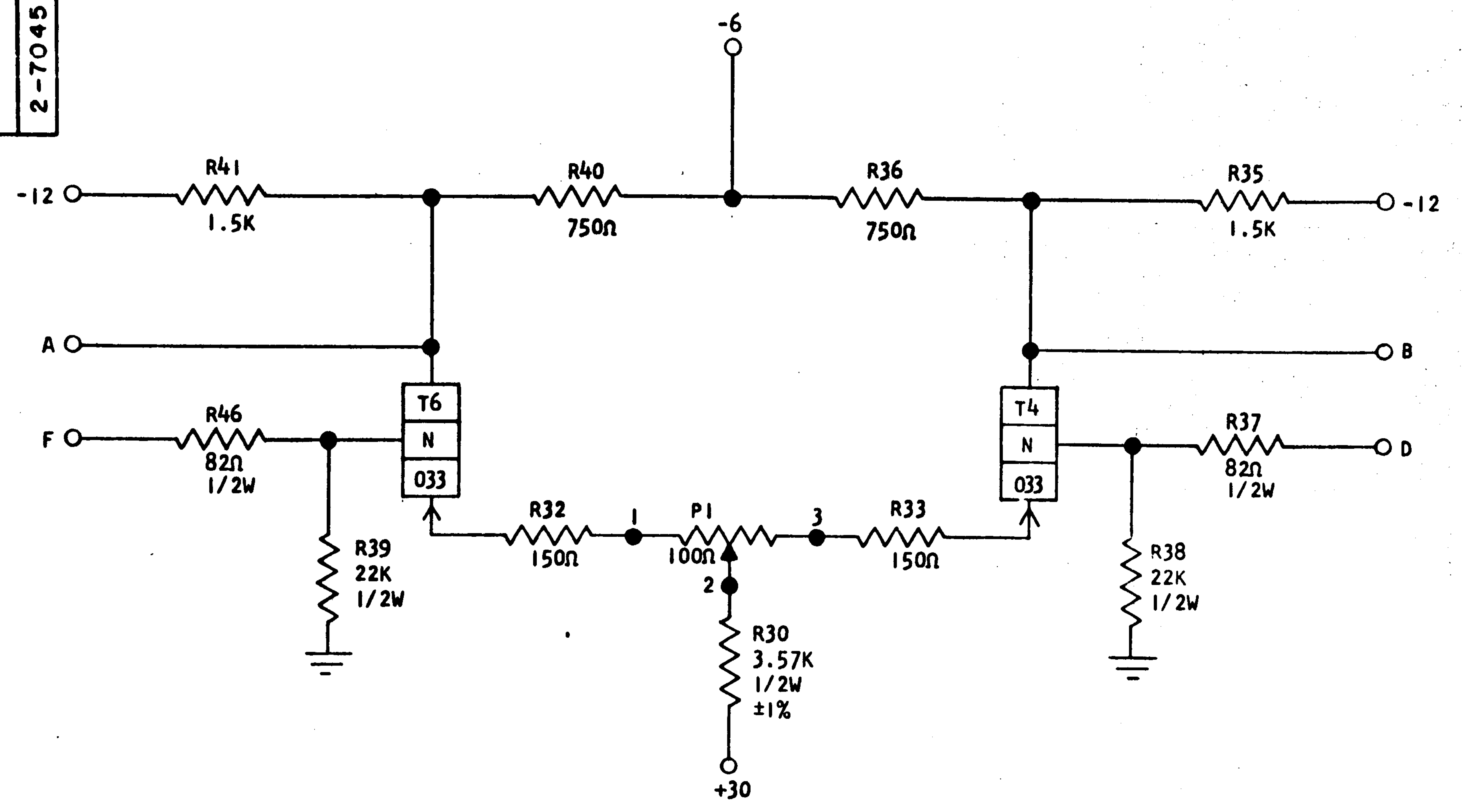
AME-

STANDARDS CODE 2-7045

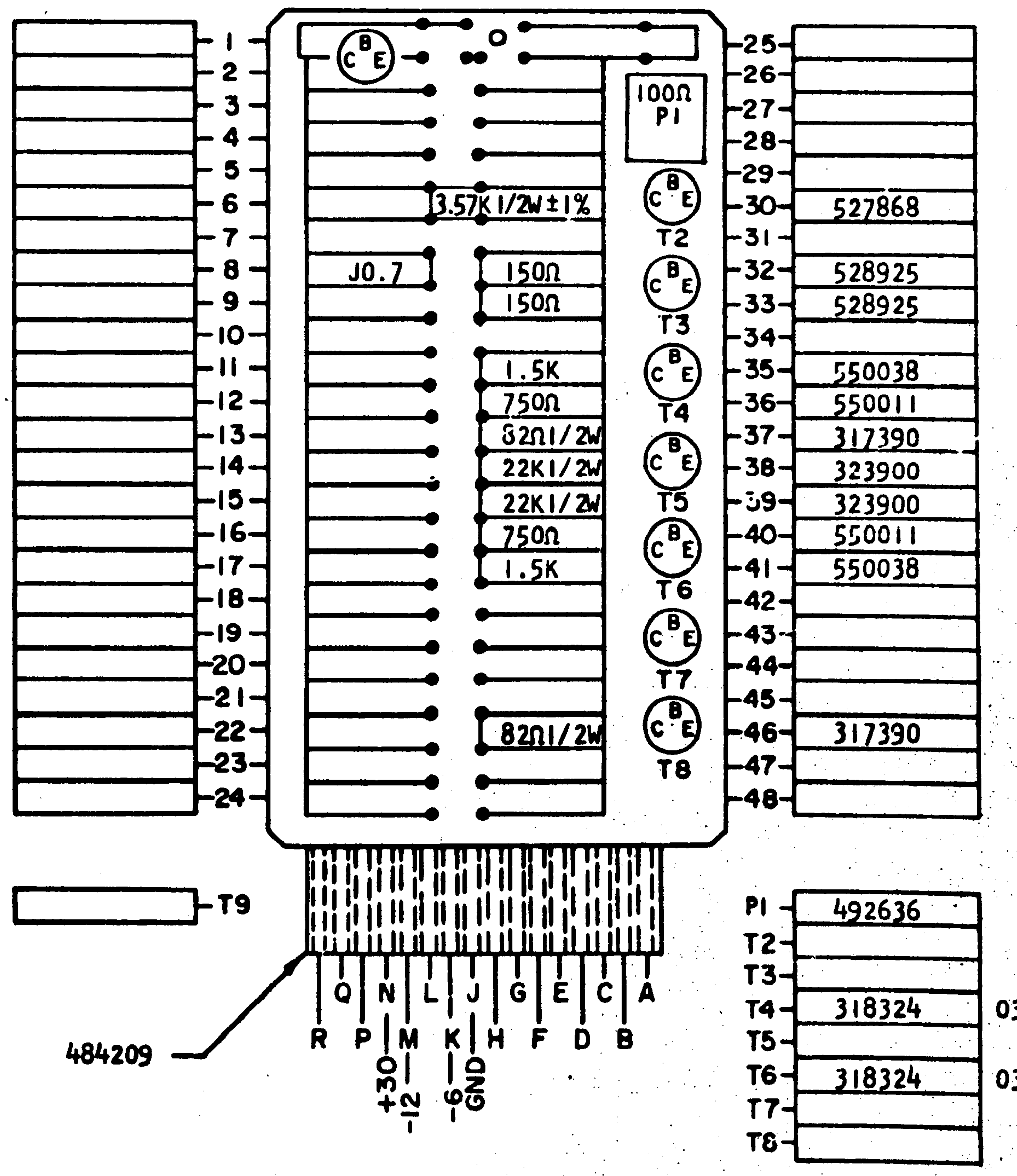
370465

OVERDRIVEN AMPLIFIER

RESTRICTED
NOTE XVI



NOTES
- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892465
- II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- III ALL RESISTORS ARE 1/8 WATT AND ±1% UNLESS OTHERWISE NOTED (AS NOTE XV)
- IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- XIV 491299-ASSEMBLE WITH POTENTIOMETER. DO NOT SUBJECT TO ANY LIQUIDS
- XV ALL 1/2 WATT RESISTORS ARE ±5% UNLESS OTHERWISE NOTED
- XVI RESTRICTED TO 1405 USAGE ONLY



B

COMPONENT SIDE

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
RCL JJB	1-17-61

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR-OVERDRIVEN AMPLIFIER				
DESIGN	SC	10-18-60	TYPE	SMS 1405	
DETAIL	WO	1-16-61	SCALE	NONE	
CHECK	A.P.	2-6-61	DRAW	VE	2-1-61
APPRO	C11S	2-8-61	CHECK	pap	2-2-61

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
2-8-61	111075	NOTE XVI				3351-X-0376

370465

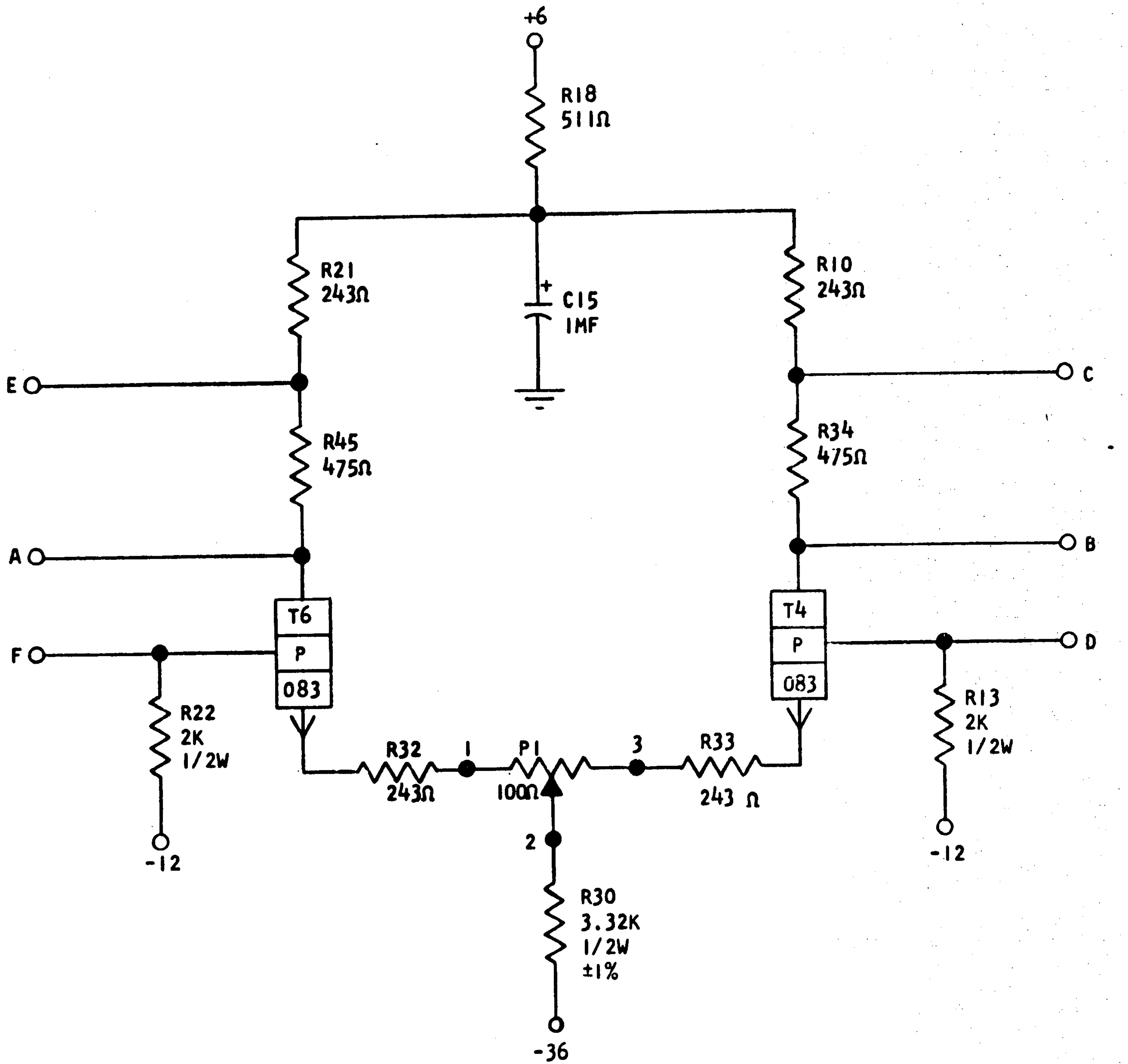
WG

370466	A M D -
STANDARDS CODE	2-7045

370466

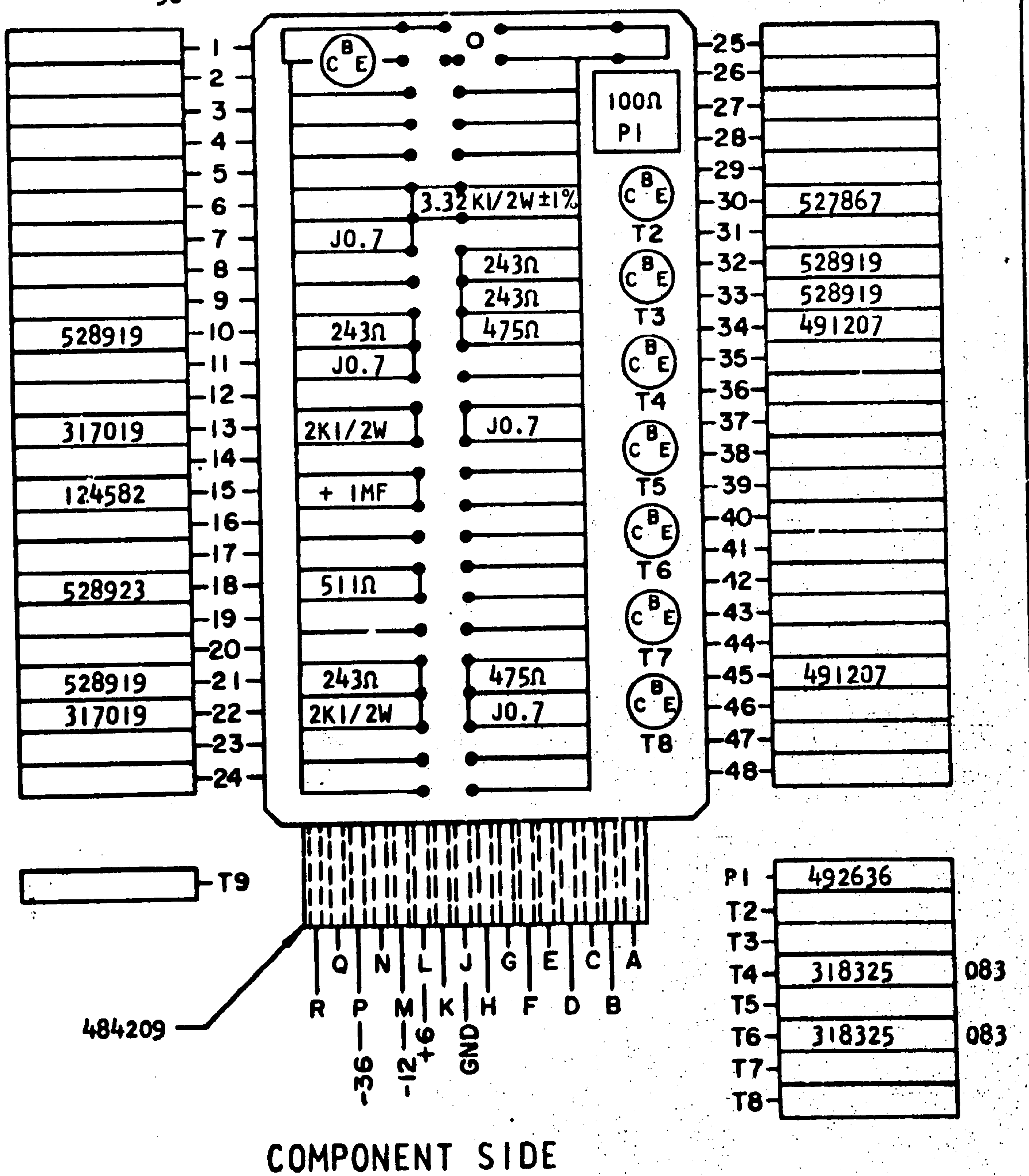
LIMITER AMPLIFIER

RESTRICTED
NOTE XVI



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892466
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/8 WATT AND ±1% UNLESS OTHERWISE NOTED (AS NOTE XV)
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- XIV 491299-ASSEMBLE WITH POTENTIOMETER. DO NOT SUBJECT TO ANY LIQUID
- XV ALL 1/2 WATT RESISTORS ARE ±5% UNLESS OTHERWISE NOTED
- XVI RESTRICTED TO 1405 USAGE ONLY



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
RCL JJB	1-17-61

INTERNATIONAL BUSINESS MACHINES CORP.			
NAME	CARD ASM TSTR- LIMITER AMPLIFIER		
DESIGN HK	9-14-60	TYPE	SMS 1405
DETAIL WO	1-13-61	SCALE	NONE
CHECK A.P.	2-6-61	DRAW VE	2-1-61
APPRO CHS	2-8-61	CHECK pap	2-2-61

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
2-8-61	111075	NOTE XVI				3351-X-0378

370466

T

C.G

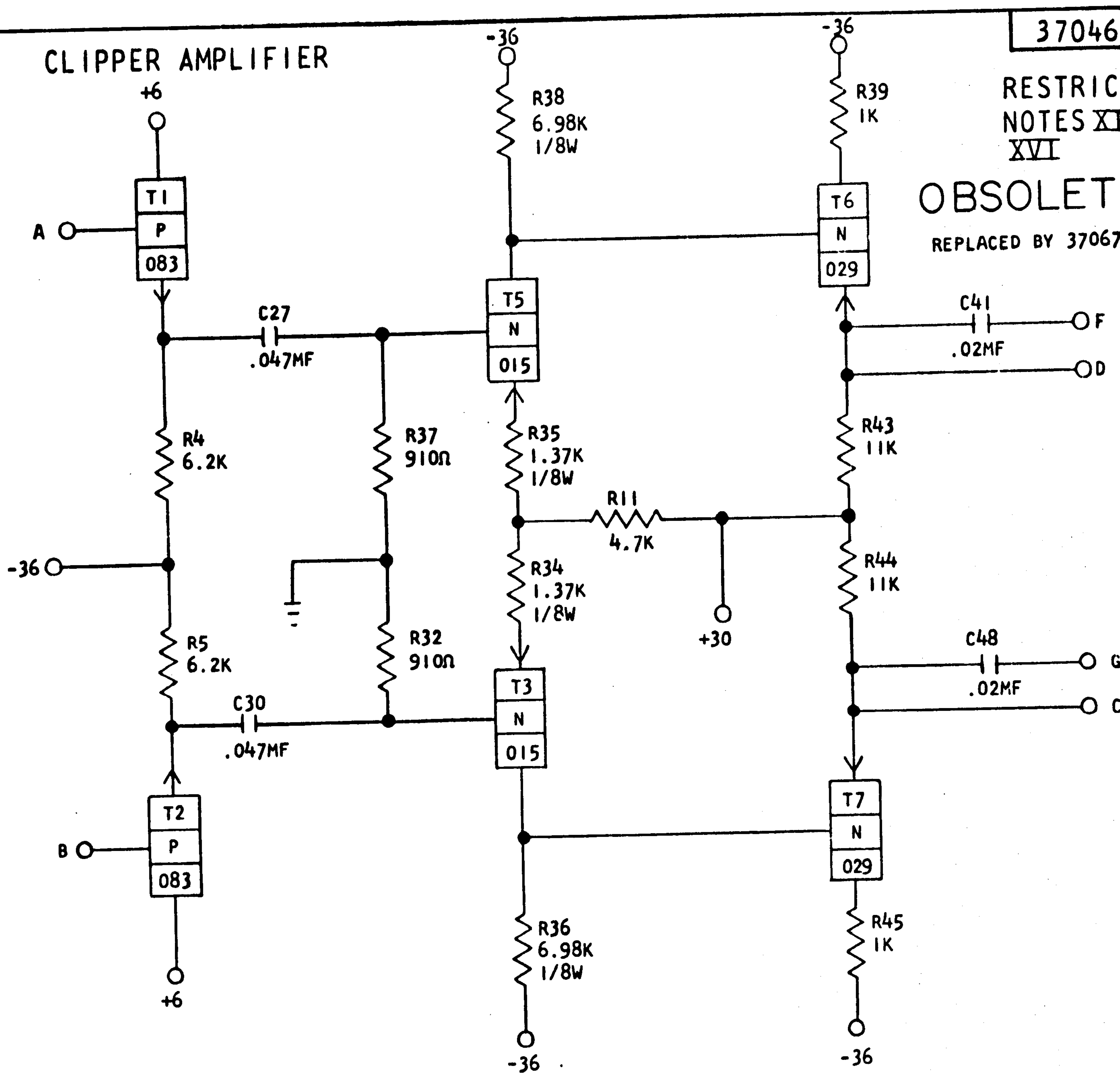
370467	AGZ-
STANDARDS CODE	2-7045

370467

RESTRICTED
NOTES XIV,
XVI

OBSOLETE
REPLACED BY 370670

CLIPPER AMPLIFIER



NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892467

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

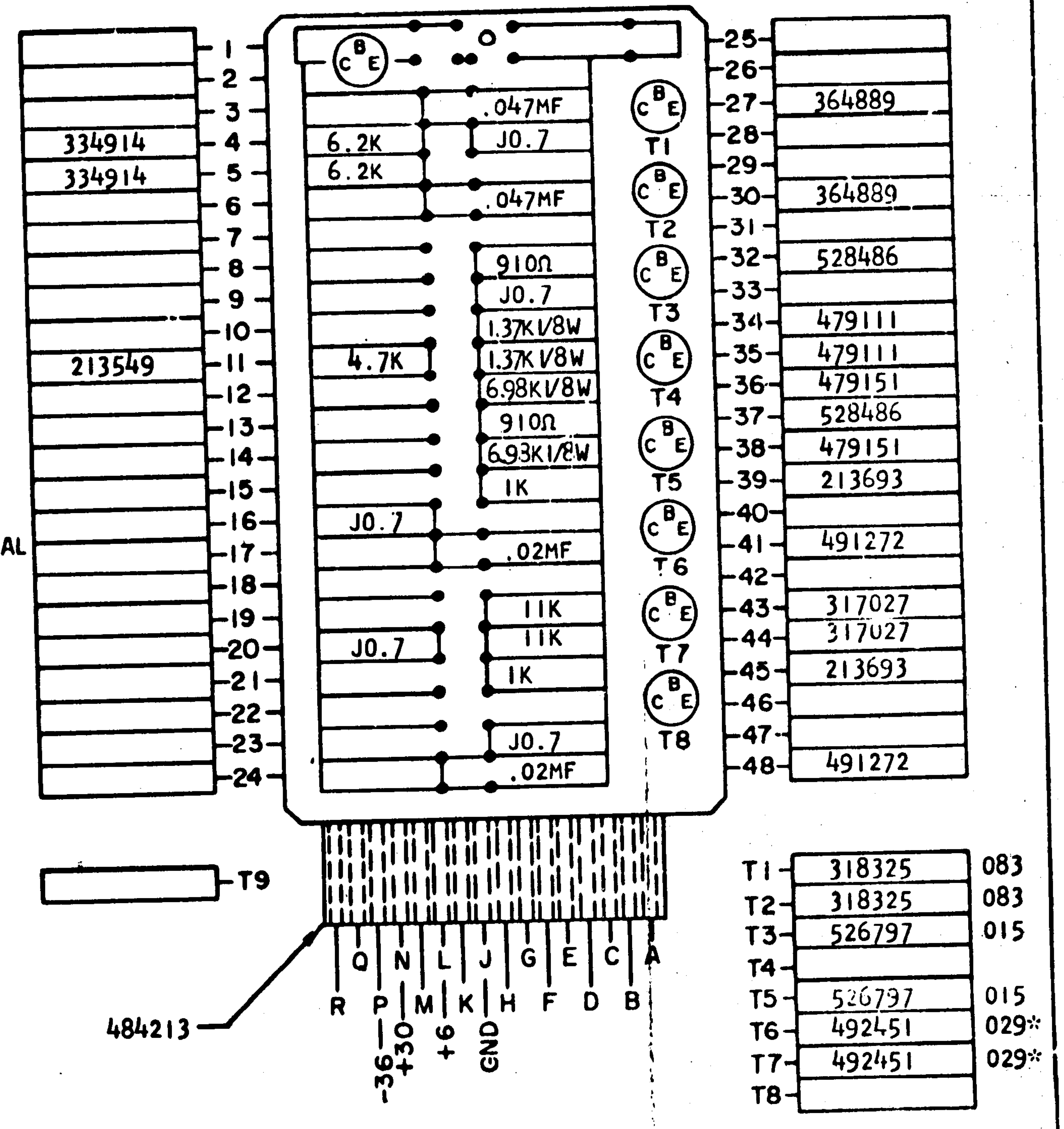
XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED (AS NOTE XV)

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296

XIV RESTRICTED TO 1405 USAGE ONLY

XV ALL 1/8 WATT RESISTORS ARE ±1% UNLESS OTHERWISE NOTED.

*XVI TECHNICAL LABORATORY EVALUATION INCOMPLETE. ADDITIONAL USAGE TO BE AVOIDED. THIS PART SUBJECT TO WITHDRAWAL



B

COMPONENT SIDE

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
RCL JJB	1-17-61

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR- CLIPPER AMPLIFIER			
DESIGN	HK	9-15-60	TYPE	SMS 1405
DETAIL	WO	1-16-61	SCALE	NONE
CHECK	A.P.	2-6-61	DRAW	VE 2-1-61
APPRO	Cl...	2-8-61	CHECK	... 2-2-61

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
2-8-61	111075	NOTE XVI				3351-X-0386
3-15-61	111418	NOTE XVI				
6-11-62	113939	NOTE XVI				

370467